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Jacob Ellis Finesinger

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The death of Jacob Finesinger on June 19, 1959 at the distressingly early age of 56 has deprived this journal of its Editor-in-Chief. Only two years ago he had taken over this position. His passing is not only a grievous loss to his editorial associates, but to a host of colleagues, students and patients. He died at the end of an active year during which he knew of his inoperable cancer. His immense courage allowed him to meet his fate frankly, simply and with an admirable equanimity that was an inspiration to all who knew him.

Throughout his career he was engaged in medical school and hospital teaching, research and clinical work; he was thoroughly trained in many fields and practiced as an academic psychiatrist in the best tradition. First of all he was a great teacher. Many of his pupils have said that they got from him their best understanding of psychiatry. Those who were fortunate enough to receive their first psychiatric teaching under him escaped the all-too-common confusion of novices in psychotherapy because of his honest, human and practical approach. He had a phenomenal ability to make a lecture hour with a large class into a lively session in which the students actively participated. With small groups and with individual assistants he had a way of provoking and directing discussion that was effective in making the student think for himself, stick to main issues and avoid facile verbalization. He hated pretentiousness and empty jargon, and when one was starting off for a medical meeting he used to say, "Now don't accept any wooden nickels!"

The training that led to his becoming an accomplished Professor of Psychiatry was exceptionally thorough. He took three degrees at The Johns Hopkins: the B.A., in 1923; the M.A., in 1925; and the M.D., in 1929. For his Master's degree he worked with H. S. Jennings, and received from him a grounding in biological methods and scientific standards that influenced all his later work. His first paper, written while in Jennings' laboratory, was entitled "Effect of certain chemical and physical agents on fecundity and length of life, and on their inheritance, in a rotifer, Lecane (distyla) inermis" (J. Exper. Zool. **44:** 63–94, 1926). After graduating from The Johns Hopkins Medical School he came to the Boston City Hospital for an internship and residency in Neurology. Then from 1932 through 1935 he held a Commonwealth Fellowship at the Boston Psychopathic Hospital. During this period he studied for a time with Pavlov in Leningrad and began his psychoanalytic training in Vienna. He returned to the Harvard Medical School in 1936 to become an Assistant Professor of Psychiatry. His teaching was carried on for the most part at the Massachusetts General Hospital, until he moved to the University of Maryland in 1949 as Professor and Head of the Department of Psychiatry. There he made the most of a fine opportunity and built not only a new Psychiatric Institute but a teaching organization that in spirit and effectiveness was second to none in America.

Finesinger's devotion to research work was steady and productive. He always had clinical problems under study and labora-

tory experiments under way. His broad biological and psychological interests kept him in touch with new ideas and methods; he collaborated with able investigators in many fields. He published over 100 papers and a review of his bibliography shows a steady evolution from the physiological to the clinical and ultimately to the philosophical. Eight of the early papers dealt with cerebral circulation. The largest single group of 26 papers reported his psychosomatic studies of respiration, circulation, lymphocytes, salivation and muscular tension in patients and normal controls. As his clinical and executive duties increased he did not allow his investigative activities to suffer. For example, in 1939 he published a paper on "The effects of pleasant and unpleasant ideas upon the respiration in psychoneurotic patients"; in 1947 "Psychiatric and physiological studies on fatigue" appeared; and in 1954 he participated in an investigation of acetylcholine in the cortex of the rabbit.

He had been quick to see the great potentialities of the clinical use of the electroencephalogram. With Mary A. B. Brazier he published 14 papers in this field. Among these were "A contrast between the electroencephalograms of 100 psychoneurotic patients and those of 500 normal controls" (1945), and "Action of barbiturates on the cerebral cortex" (1945).

During World War II he worked for the Navy on the selection of candidates for pilot training. Extensive physiological and psychological studies were carried out and five papers were published, the last a monograph entitled *An Investigation of Prediction of Success in Naval Flight Training* (Report #81 of the Civil Aeronautics Administration). His clinical studies, fewer in number, were significant contributions. Eleven papers in clinical areas come under this heading, including "Neurotic symptoms and emotional factors in atopic dermatitis" (1942) and "Clinical studies in fatigue states" (1948). Because of his dissatisfaction with the vague terminology and ambiguous concepts found in much psychiatric writing and thinking, he joined forces during this period with John Reid, whose work in philosophy complemented Finesinger's in teaching, interviewing and scientific writing. Together they discussed these important problems for ten years, and the collaboration yielded several papers, including "The role of insight in psychotherapy," "The role of definitions in psychiatry," and "Defenses: their nature and function."

Finesinger's main interest was in teaching and research, but until moving to Baltimore he always carried a number of patients in psychotherapy and psychoanalysis. For this he had thoroughly prepared himself by undergoing a five-year period of psychoanalytic training, beginning in 1932. His analytic experience strongly influenced his treatment of hospital patients, and out of this he developed methods of brief psychotherapy for use on psychiatric wards. He had a truly unusual ability to pass on his knowledge of theory and practice to younger colleagues.

This brief sketch emphasizes something of his professional accomplishments, but it communicates little of the man's lovable personality. To those who knew him well he was not Professor Finesinger, but Jake. Tough-minded but tender-hearted, he was always kind, quiet and understanding, a *Gemütsmensch*. His marriage to Grace Lubin in 1932 was the beginning of a devoted partnership. Their family life was simple, full of love, and the atmosphere of the home was quiet and unpretentious, dominated by their mutual interests in literature, music and art. Two children are now grown and carry on the medical interest and inspiration of their fine, affectionate and thoughtful parents.

STANLEY COBB

DEPTH STIMULATION AND RECORDING IN THALAMUS AND GLOBUS PALLIDUS OF PATIENTS WITH PARALYSIS AGITANS

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Surgical intervention in patients suffering from Parkinson's disease has extended the scope of investigations into mechanisms of tremor, since records thus obtained from deep regions of the diencephalon and basal ganglia during episodes of spontaneous tremor may indicate at least some correlates with the tremor process. Previous investigations along these lines (10, 23) have indicated that such correlations are likely to be subtle and may only be obvious with the use of computing techniques in further analysis of the EEG record. Thus, Brazier and Barlow (10) observed no correlation between the rhythm of the forearm tremor and activity of the cortex of the deep structures. However, computer analysis of their data showed the rhythms in various parts of the medial globus pallidus were synchronous with one another, but that this activity preceded that in the putamen and lateral globus pallidus.

The results presented here are part of a continuing program of depth recording and stimulation in these parkinsonian patients, carried out during therapeutic surgical procedures, and are based on changes noted from visual inspection of the records.

PROCEDURE

Recording and stimulation procedures in deep cerebral structures have been performed in eleven patients. Results are described from three of these cases. Selection of these cases has been based solely on the finding in their surface or depth records of striking concomitants of the tremor process. In the majority of the other cases examined, recruiting responses from depth stimulation occurred commonly, but no evoked or spontaneous tremor was seen during the period of recording, possibly due to inadvertently deep sedation. Thalamic and pallidal electrode placements were secured by the use of an electrode holder screwed to the skull adjacent to a frontal burr hole, and electrode tip positions adjusted with radiological control in relation to landmarks provided by pneumoencephalography. Stimulation and recording was carried out in all cases with bipolar stainless steel electrodes, prepared from nylon-coated 28 gauge wire. Each wire was bared for a distance of 1.5 mm. from the tip, and were cemented together, with one wire 3.5 mm. shorter than the other. The two wires were either inserted into flexible polethylene tube, which permitted their passage down a brain needle, or were placed in a fine stainless steel tube which could then be passed into the brain independently of the brain needle. Scalp electrodes prepared from curved stainless steel needles were inserted into the scalp in the symmetric patterns indicated in the tracings. All recordings were made with an 8-channel Grass electroencephalograph. Stimuli were delivered from a Grass model IV-C stimulator and isolation unit. A wide range of stimulus parameters, including trains from 1 to 50 per second were employed in all cases. Anesthesia in all three cases presented here was by local scalp infiltration with procaine hydrochloride. No barbiturate sedation was employed in these cases.

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CASE FINDINGS

Case E. W., aged 42 years. Here, as shown in Figure 1, stimulation of the right thalamus, presumably in the nucleus ventralis lateralis on the basis of the radiological electrode placement, at 5 per second (stimulus amplitude 6.0 volts, duration 2.0 msec.), induced a recruiting response in the right frontocentral and centroparietal leads. The recruitment was more obvious in the frontocentral than in the frontoparietal leads, and occurred progressively in the first six or eight responses. The enhanced response was sustained thereafter in the frontocentral lead, but waxed and waned in the centroparietal record.

This finding of an ipsilateral recruiting response in frontocentral cortex from stim-

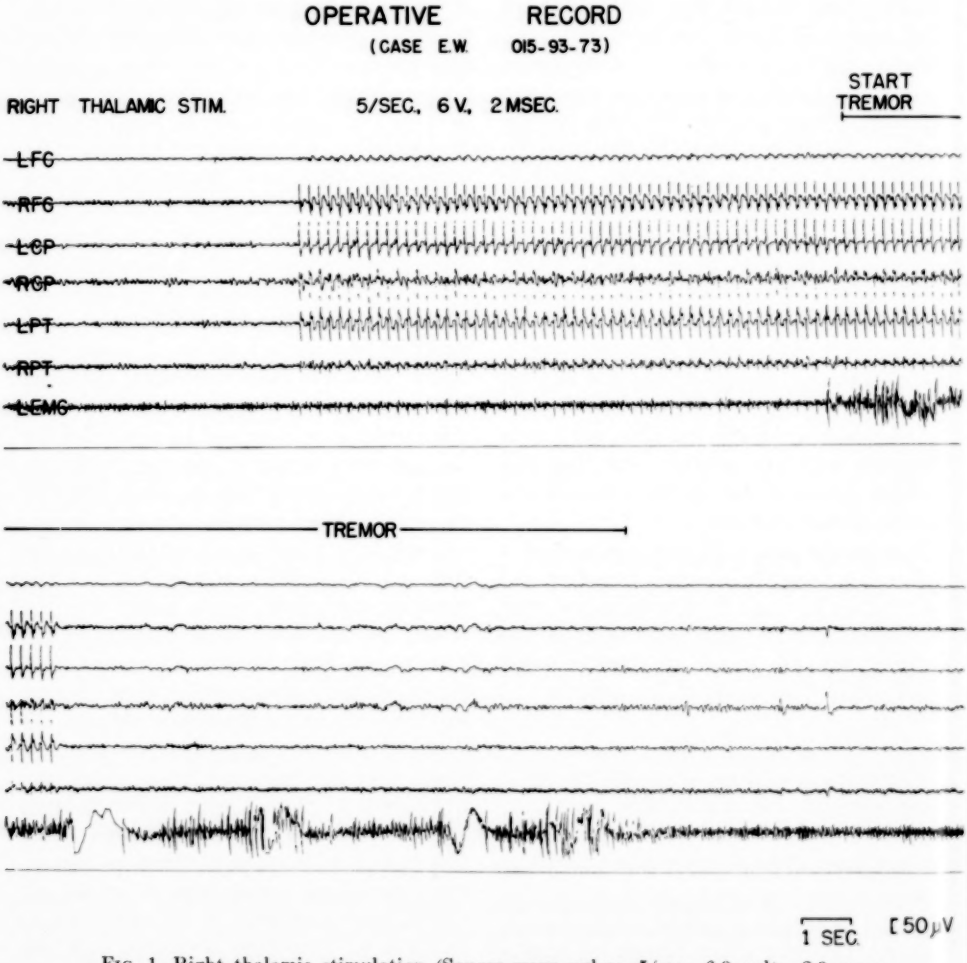

FIG. 1. Right thalamic stimulation (Square wave pulses, 5/sec., 6.0 volts, 2.0 msec. duration), with onset of a period of tremor in the muscles of the left arm. Abbreviations used in this and subsequent records: LFC, left frontocentral lead; RFC, right frontocentral lead; LCP, left centroparietal lead; RCP, right centroparietal lead; LPT, left parietotemporal lead; RPT, right parietotemporal lead; LEMG, electromyogram from left forearm. Upper and lower sections of record are continuous. All records bipolar.

ılation of the ventrolateral thalamus has been one of the most constant findings in this series of cases, and has been observed maximally at stimulus rates of 1 to 5 per second.

An episode of tremor was observed towards the end of the stimulus period and can be seen in the electromyogram from the contralateral forearm flexor muscles in Figure 1. It outlasted the period of stimulation by some seconds, and while the causal relationship of the stimulus to the onset of the tremor obviously cannot be determined from these findings, it appears relevant that the record for two minutes prior to stimulation shows no electromyographic evidence of tremor.

Case McG., aged 57 years. Stimulation of the ventrolateral nuclei of the right thalamus at 3 per second evoked a slowly recruiting response in the right centroparietal cortex (Figure 2A). Stimulation at 5 per second, and with a stronger stimulus (Figure 2B) induced a more rapid recruitment in this right centroparietal cortex, and with recruitment now also appearing in the opposite parietotemporal region. Recruitment in the contralateral cortical responses has not been seen commonly in this series of cases. On decreasing the stimulus parameters slightly (Figure 2C), the recruiting response in the contralateral parietotemporal cortex was abolished, but was still present in the ipsilateral centroparietal cortex in reduced amount.

The thalamic records in this patient while lying quietly without discernible movement showed rapid rhythmic "spindling" activity at 12 to 16 per second, occurring almost continuously, but with a certain waxing and waning every 2 or 3 seconds (Figure 3A). It was noted that during spasms of contraction in the jaw musculature, as indicated by electromyographic interference in the frontal and parietal records of Figure 3B, this spindling ceased abruptly at the onset of the muscular discharge and returned two seconds after the end of the muscle spasm.

The finding of similar rhythmic spindle discharges in the resting record from the globus pallidus is described in the next case.

Case H. H. aged 63 years. Here the opportunity was taken to insert two depth electrodes, one into the left ventrolateral thalamic nuclei and the other into the left globus pallidus. Stimulation of the thalamus at 1 per second produced a response showing considerable recruitment in its later, slower components in left centroparietal and frontotemporal leads, and induced a complex polyphasic response in the left pallidum. This polyphasic response replaced the rapid spindling activity which characterized the resting pallidal record (Figure 4A).

With rapid stimulation of the left thalamus (50 per second), a high-voltage, slow wave afterdischarge was induced in many scalp leads and in the globus pallidus, and was associated with elbow flexion and tremor in the right thumb (Figure 4B), although interpretation here may have been rendered difficult by slow sways due possibly to movement artifacts. Examination of the record shows that these slow waves appeared appreciably earlier in both ipsilateral and contralateral centroparietal cortical areas than in the ipsilateral globus pallidus.

A striking feature of this case was the effectiveness of a 5 per second thalamic stimulus in evoking a tremor of the opposite arm and hand, indistinguishable from the naturally occurring paroxysms of tremor, and the introduction of a generalized 5 per second rhythm over wide areas of the cerebral mantle, lasting for many seconds after the end of stimulation (Figures 6 and 7). It will be seen that this rhythm entirely replaced the spindling noted in the control record (Figure 5), and involved most left cortical leads and also leads from right central areas. Both the tremor and the evoked 5 per second rhythm subsided 8 seconds

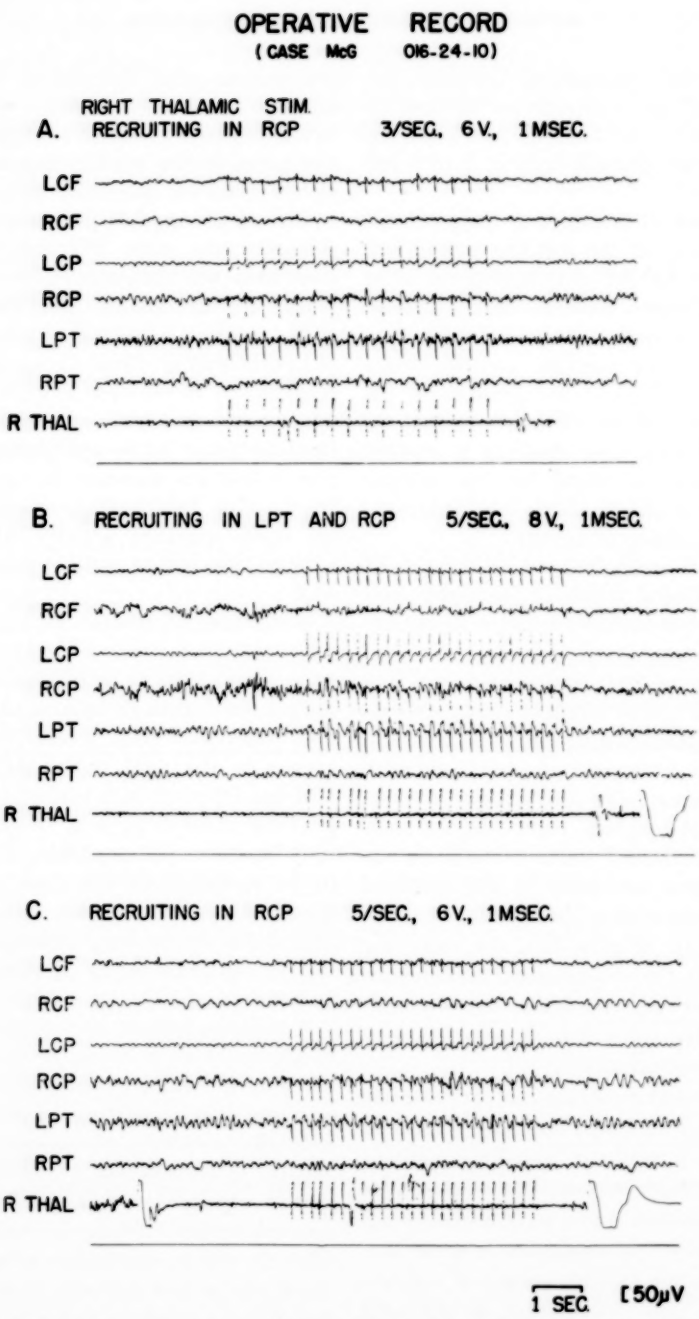

FIG. 2. Recruiting responses recorded in scalp leads during right thalamic stimulation. A. Recruiting response in right centroparietal lead (RCP) during 3/second thalamic stimulation. B. Similar responses in the ipsilateral centroparietal lead (RCP) and contralateral parieto-temporal leads (LPT) with 5/sec. stimulation. C. Recruiting in the right centroparietal lead (RCP) with 5/sec. stimulation.

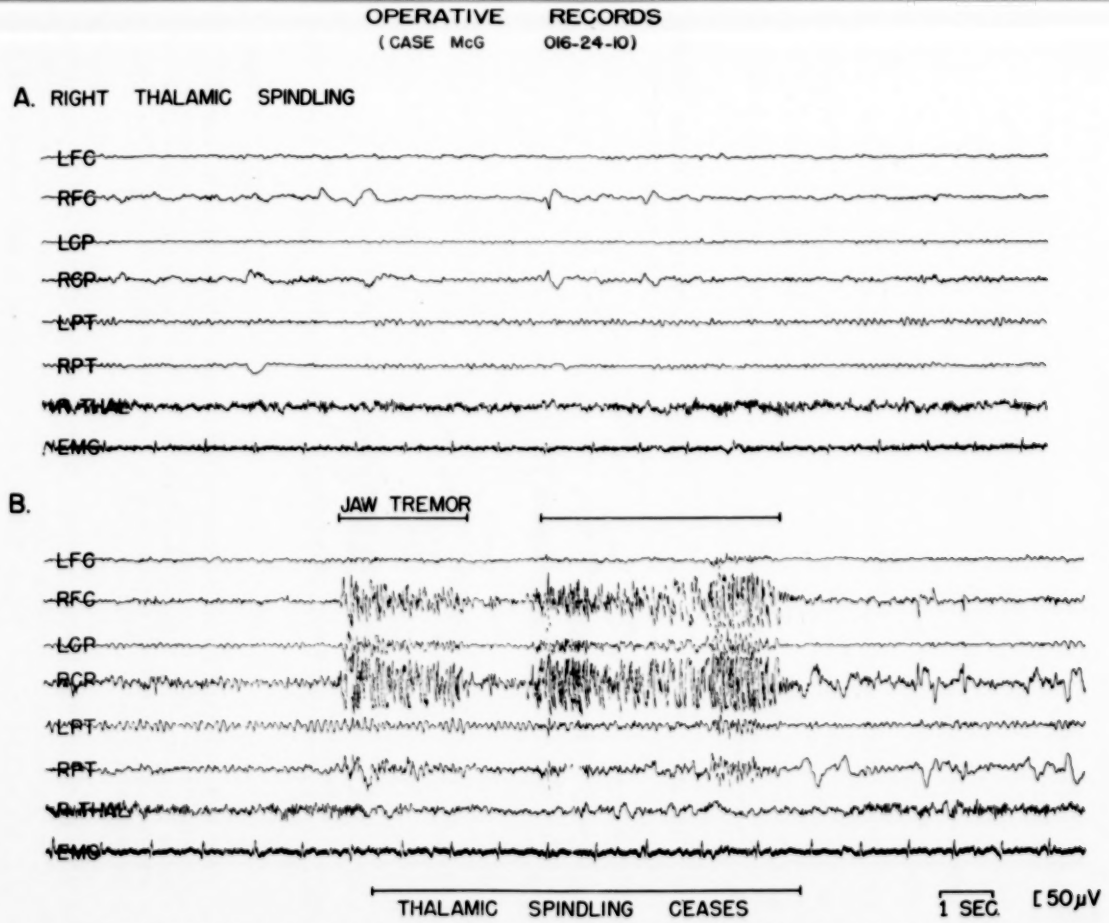

FIG. 3. Spindling trains of waves at 12–16/sec. in the right thalamic lead (R Thal) in record A, with disruption of this spindling during a spontaneous burst of jaw tremor (B) as indicated by the electromyographic interference in the frontocentral leads. The spindling returned at the end of the tremor spasm.

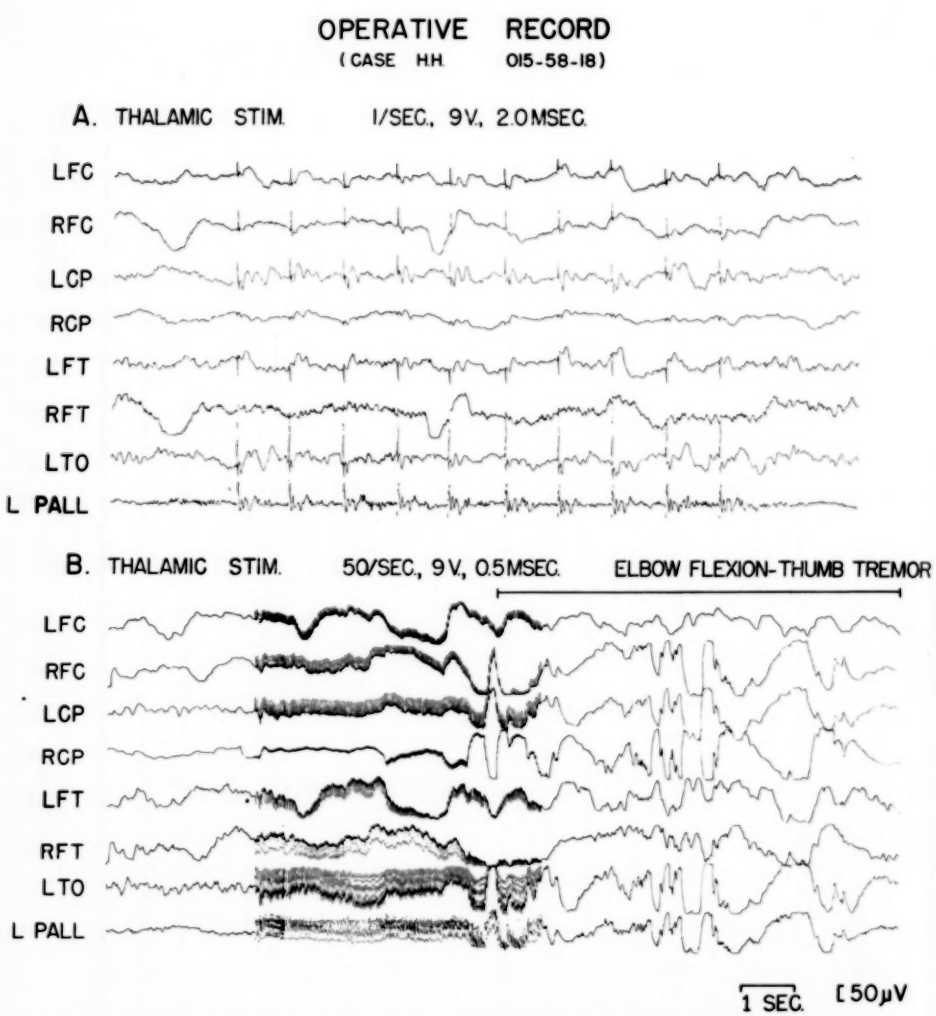

FIG. 4. Records from the left pallidum (L PALL) during stimulation of the nucleus ventralis lateralis thalami on the same side. At slow rates of stimulation (A), a polyphasic resting record. With high frequency stimulation of the left thalamus (B) a high voltage after-discharge of slow waves occurred in scalp leads and pallidum (see text). LTO, left temporo-occipital record; L PALL, left pallidal lead.

after stimulation and, with their disappearance, the characteristic spindling reappeared in the pallidal record (Figure 7).

Repetition of the train of 5 per second stimuli approximately two minutes after the test shown in Figure 5 failed to evoke any 5 per second afterdischarge, nor was there any evoked tremor, and the trains of pallidal spindles reappeared immediately after the end of stimulation, suggesting, that, perhaps, some "central excitatory state" necessary to the initiation of the tremor was exhausted by the initial period of stimulation (Figure 8).

DISCUSSION

The results presented here may be of interest by reason of the correlation seen in

wo cases, with depth recordings from thal-
mus and globus pallidus respectively, of
rapid, rhythmic "spindling" activity with
he resting state, and its subsequent modifi-
ation or disruption during both electrically
nduced and spontaneous episodes of tremor.
Moreover, in the case H. H. the electrical stimulus at 5 per second was effective both in inducing tremor and also in inducing a generalized 5 per second cortical rhythm which outlasted the stimulus by many seconds, and as both tremor and 5 per second

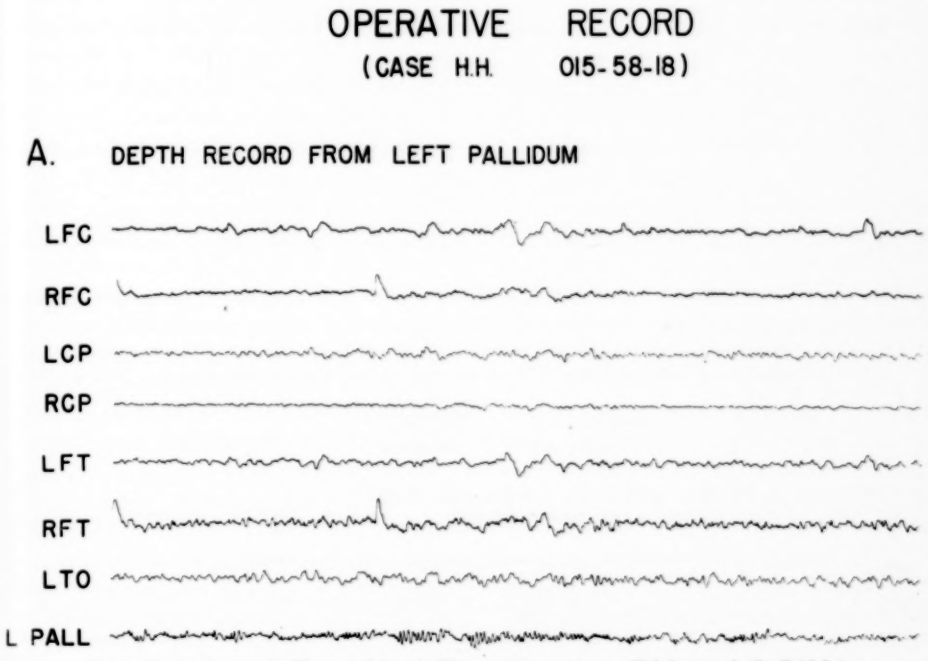

FIG. 5. Same case as in Fig. 4, with spindling in the resting pallidal record (L. PALL.)

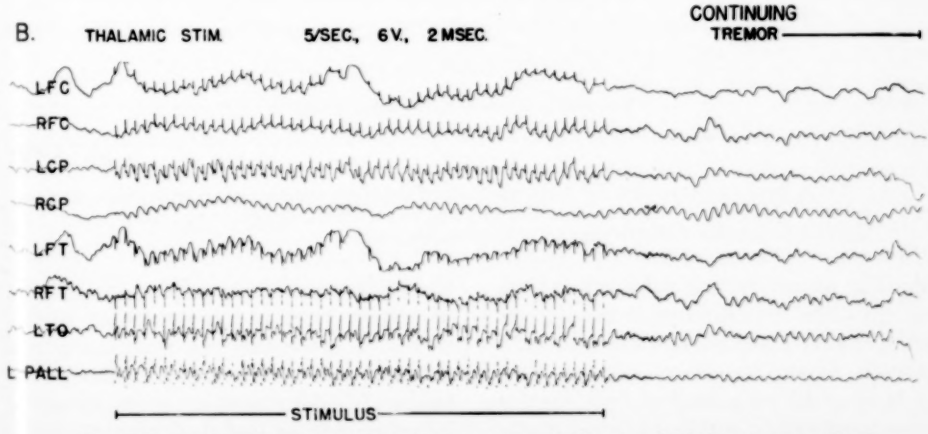

FIG. 6. Thalamic stimulation at 5/sec. in same case as in Figs. 4 and 5 induced a generalized 5/sec. rhythm, which replaced the pallidal spindling and induced a continuing tremor. Pallidal record, L. PALL.

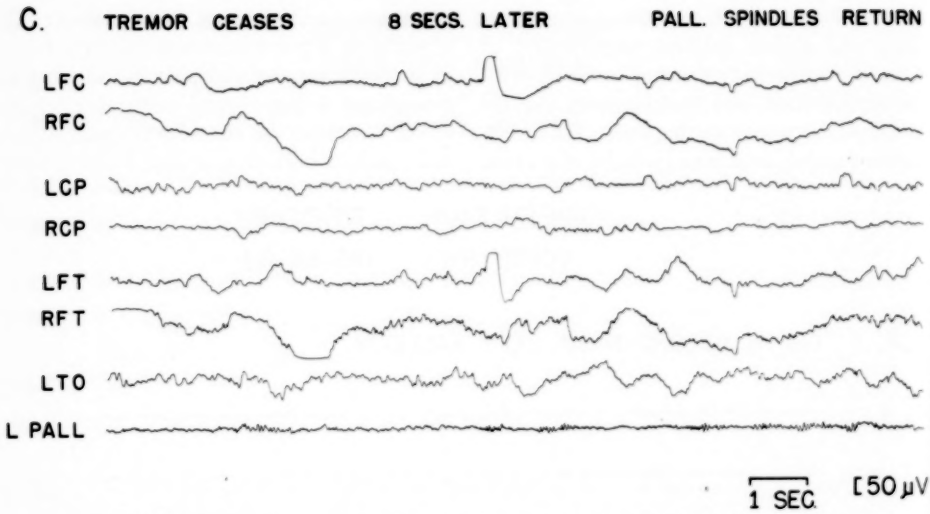

FIG. 7. Subsidence of the tremor episode shown in Fig. 6 was accompanied by return of the pallidal spindles and disappearance of the 5/sec. cortical activity. Pallidal record, L. PALL.

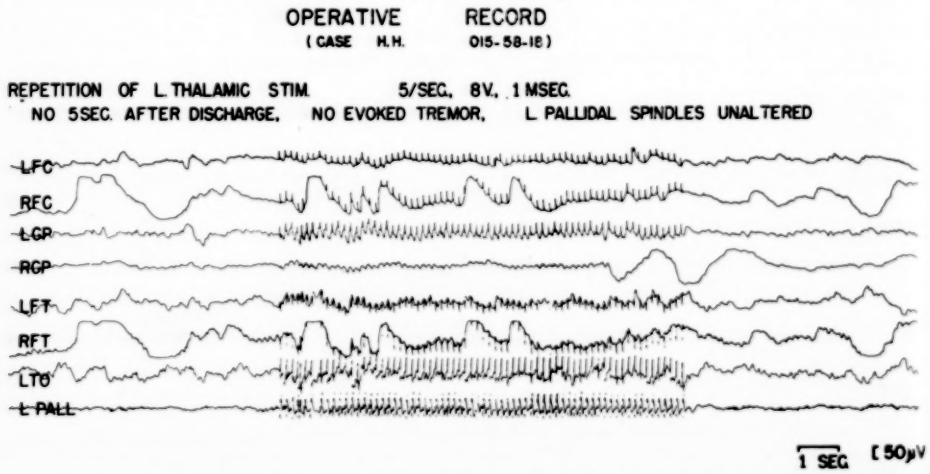

FIG. 8. Same case as in Figs. 4–7. Here repetition of the 5/sec. stimulus two minutes after the records in Figs. 6 and 7 failed to induce tremor and no persistent changes in cortical rhythms and pallidal spindles followed the end of the stimulus train.

rhythms simultaneously subsided, the spindling pallidal record returned. Similar spindling in striatal records has been reported by Meyers, Hayne and Knott (23).

It may be remarked as well that the ephemeral nature of these same correlations serves also to emphasize the essential difficulties in delineating many of the unknown factors which precipitate an episode of tremor. Thus, in this same case, repetition of the tremorigenic stimulation two minutes after a successful induction of tremor failed to produce a recurrence of either tremor or electrical after-discharge in cortical records. This finding resembles in many ways the effects of electrically in-

duced seizures from thalamic stimulation, with a period of depressed excitability following the seizure discharge, or "neuronal exhaustion" in the Jacksonian sense.

Foremost among the many parameters which indubitably exercise a controlling influence on the onset of Parkinsonian tremor is the patient's state of consciousness and particularly his state of emotional arousal. Here, as in the studies of others of depth recordings at operation (20), the need for varying degrees of sedation supplementing local analgesia at once introduces complexities in the inevitable alterations occurring in excitability thresholds.

While the relationship of the onset of Parkinsonian tremor to returning consciousness in the awakening patient is well known, little attention has been directed to emotional disturbances appearing as concomitants of the disease, although Narabayashi, Okuma and Shikiba (25) have drawn attention to certain autonomic disorders in their cases, including hyperidrosis and ptyalism. The clinical observation that emotional disturbances exacerbate the spasms of tremor suggests the need for a reappraisal of the physiological mechanisms which may be involved (1–4), and the assessment of proposed physiological mechanisms in the light of histopathological findings in the disease entity "Kuru," characterized by both symptoms of paralysis agitans and severe emotional disturbances (15, 34), and with extensive degeneration in the striatum and reticular formation, but without major changes in such rhinencephalic structures as the hippocampus (Sunderland, 1958, personal communication).

Much attention has been directed in recent years to destruction of the globus pallidus in the amelioration of Parkinson's disease (12). It has been supposed that the globus pallidus might lie on a series of reentrant pathways passing firstly from cerebral cortex to caudate nucleus and globus pallidus and thence via the prerubal fields to the substantia nigra, with axon collaterals in the prerubral fields running a recurrent course to the nucleus ventralis lateralis of the thalamus. Additional efferent axons from the substantia nigra have been described ascending to the same region of the thalamus and so, by further relays, might influence patterns of excitability in the motor cortex. These suggested pathways have formed the basis of surgical intervention for paralysis agitans in the substantia nigra and ansa lenticularis (24) and in the present study, in the nucleus ventralis lateralis of the thalamus.

Nevertheless, the manner of participation of the motor cortex in the genesis of tremor and other aspects of involuntary movement has remained obscure. Parkinson himself observed that the tremor of paralysis agitans disappeared following vascular lesions of the internal capsule, and the remission of symptoms following division of the lateral white column of the cord has been interpreted by Putnam (30) in terms of the interruption of pyramidal tract fibers. However, resection of the motor cortex in paralysis agitans has produced varying results, so that in view of the beneficial effects following pallidectomy, and in the results of thalamic lesions in the present study, to be reported elsewhere (R. W. R.), attention may be drawn to the possibility that the globus pallidus may be the site of convergence for influences arising from adjacent subcortical structures and in cortical zones outside the motor areas.

While extrapolation of findings in animals directly to man is at best a dubious procedure, a tremor comparable to that in paralysis agitans has been produced in monkeys by destruction of the ventromedial midbrain tegmentum dorsal to the substantia nigra by Ward, McCulloch and Magoun (33) and Peterson, Magoun, McCulloch and Lindsley (27), who advanced reasons for attributing the tremor to rhythmical activity of the reticular formation of the midbrain, released by the lesion, and with mediation of the abnormal movement

at spinal levels through reticulospinal or extrapyramidal pathways. The abnormal movements of paralysis agitans have not been shown to occur exclusively through pyramidal pathways to the cord, and, indeed, many pyramidal fibers terminate in the medulla (21, 31) and even more rostrally at pontine and mesencephalic levels. Peterson *et al.*, concluded that their results did not support the motor cortex as a primary participant in the genesis of tremor, since no correlation was found between electrocorticographic records and electromyograms from the tremoring muscles. On the other hand, reticulospinal neurons might well be susceptible to altered patterns of afferent input, since they are normally subjected to a subtle interplay of influxes from the periphery, the cerebellum, the cerebrum, the subthalamus, tectum and basal ganglia.

The muscle stretch reflex itself is not primarily responsible for the tremor of paralysis agitans, although its adjuvant role is highly probable. Walshe (32) found that intramuscular injection of procaine, so graded as to paralyze only the afferent nerve fibers in the muscle, abolished or greatly reduced the rigidity of paralysis agitans. Pollock and Davis (28) noted that section of the posterior nerve roots in man abolished the rigidity and that the tremor was modified in rhythm, amplitude and rate, with the appearance of irregularities in rate and rhythm. While these studies shed no conclusive light on the relationship between proprioceptive input and the tremor mechanism, it is of interest that Halliday and Redfearn (18), from studies of finger tremor in normal and tabetic subjects, were unable to exclude an instability of "servo" mechanisms in the reflex arc, and discuss the further possibility of tremor imposed on motoneurons by rhythmic bursts of impulses from higher sources, such as the reticular formation.

In the light of these findings, what role may be assigned to the basal ganglia in mechanisms of tremor, by reason of influences which they might exercise over activity in cells of the reticular formation? Direct examination of activity in single reticular cells has revealed that interaction between paired volleys to the globus pallidus and sciatic nerve is capable of producing rhythmic bursts of cellular discharge not seen with either stimulus alone, and that this effect is exacerbated by tremorigenic drugs, such as chlorpromazine which can also produce a clinical picture of paralysis agitans (3, 4).

Moreover, in these studies, comparable rhythmic bursts of reticular cellular discharge have been produced by interaction of peripheral sciatic volleys with stimulation of basal areas of the temporal lobe, including the amygdala. Little attention appears to have been directed hitherto to the possible participation of descending rhinencephalic influences in mechanisms of tremor, although exacerbation of parkinsonian tremor by emotional disturbances is well known. Evoked responses in the midbrain tegmentum have been recorded from stimulation of the amygdala (16, 17) and the entorhinal area (5, 6, 8). These descending influences from basal occipitotemporal cortical structures are capable of greatly modifying ascending reticular conduction (7) and also of inhibiting unit firing in the dorsal midbrain tegmentum (1).

Anatomical and physiological studies of interrelations between the rhinencephalon and the basal ganglia have indicated that in the monkey the globus pallidus may form part of the primary projection field from the amygdala (2, 9). These findings are in conformity with the development of the amygdala and globus pallidus from adjacent pallial areas (14, 19). Le Gros Clark (11) has recently directed attention to other influxes into the striatum, particularly from the intralaminar and midline nuclei of the thalamus (13, 22, 26, 29), with the suggestion that the corpus striatum is a highly

important "sensory ganglion" which receives by way of the intralaminar nuclei, patterns of afferent impulses mediated by the reticular system as a whole, and may perhaps mediate certain aspects of human "instinctive behavior."

It may be relevant to such hypotheses that the present study has indicated a fast spindling activity, common to both thalamus and globus pallidus in certain operative records, and which was modified by both spontaneous and electrically induced tremor activity. It may be emphasized that such correlates should be regarded as but the first steps in attempts to unravel the complex changes precipitating the tremor at rest of paralysis agitans.

SUMMARY

In a continuing study of depth recording and stimulation in patients with paralysis agitans, results are presented from three of the first 11 cases examined.

Stimulation in the nucleus ventralis lateralis of the thalamus (as radiologically determined) at rates between 1 and 5 per second frequently evoked recruiting responses in scalp records, particularly in frontocentral leads and in lesser degree in centroparietal leads of the same hemisphere.

In two cases, death records showed a rapid rhythmic "spindling" activity, at 12–16 per second, in one case in the thalamus and in the other in the globus pallidus, while the patient was lying quietly awake. This spindling was abolished during both spontaneously and electrically induced tremor. In one of these cases, stimulation of thalamus at 5 per second was effective in inducing a generalized 5 per second cortical rhythm, with an episode of induced tremor lasting considerably beyond the period of stimulation and subsiding as the induced rhythm waned.

The physiological mechanisms mediating the parkinsonian tremor are discussed in the light of findings that thalamic and pallidal influences on reticulospinal pathways may be in turn rhythmically modulated by descending rhinencephalic influences, including those arising in the amygdala.

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This paper and the three which immediately follow were originally presented at a symposium entitled "Process-Reactive Schizophrenia," given at the Annual Convention of the American Psychological Association, Washington, D.C., August, 1958. Each of the contributions has been revised for publication in JNMD, and the final article, by Doctors Garmezy and Rodnik (p. 450), has been much expanded to include a review of the most recent research investigations carried out in their laboratory during the past seven years. This material is here presented in a neuropsychiatric journal for the first time. We believe that these four articles, reporting some of the thinking and research approaches being followed by psychological investigators at Stanford, the Veterans Administration, Illinois and Duke Universities, will be of special interest to our readers.

The Editors

THE PROCESS-REACTIVE CONTINUUM: A THEORETICAL PROPOSAL

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A central psychological postulation is involved in the present proposal: that there are sequential steps of growth which most members of our culture encounter; and that each step contains a central problem which must be at least partially coped with successfully before a new organization of experience can occur adequately on the developmental continuum. To deal successfully with the central problem in any given growth step is what Sullivan called an "integration."

If each core problem is coped with successfully as development proceeds, then regression becomes a very unlikely possibility. In effect, the theory of schizophrenia held in this paper declares that incomplete integrations are antecedents of regressions, and that regressions and failures to progress developmentally are reflected in schizophrenia.

Sullivan (2) suggested that integrations may occur in at least five significantly different modes: the empathic, the prototaxic, the parataxic, the autistic, and the syntaxic. The direction of growth is from the former to the latter.

He did not extend this notion to cover a theory about the schizophrenias. It is the proposal of the present authors that schizophrenic persons can be described systematically at various steps along such a continuum of social maturity, with fertile implications for research and for enhanced understanding of the disease process.

STAGES OF DEVELOPMENT AND SCHIZOPHRENIC INTEGRATION

1. EMPATHIC STAGE

A. *Problem:* The experience of anxiety.

B. *Description:* The central notion here is that anxiety has its origin in the direct discomfort felt by the infant in response to disapproval by the adult. In this early stage of life, even the crudest symbolism does not yet exist, and all experience is unconnected and discrete. Functioning is at an elementary biological level.

Emotional trauma at this stage of development tends to retard psychological growth in an extremely serious way, which is modified only by very persistent later healthy relationships.

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If anxiety is persistent and severe at this empathic stage, the developmental usefulness of experience is greatly curtailed, and there may even be interference with the biological processes.

An extremely threatening aspect of anxiety in early infancy is that it cannot be evaded. The source of anxiety, usually the mother, cannot be destroyed or removed. On the contrary, the infant's usual defense, that of crying, may heighten the anxiety of the infant by heightening the anxiety of the significant adult.

At this point, another security operation may be employed by the anxiety-ridden infant, that of somnolent detachment, which serves to lessen the vulnerability of the infant by removing him from the field of interpersonal tension.

C. *Schizophrenic integration:* The adult who has been severely traumatized in the emphatic stage of development tends to the most malignant species of schizophrenic behavior. The snydrome is one of a degenerative illness, usually of insidious development.

Prediction could be made that this illness will show many signs of organic dysfunction, in line with the idea that massive anxiety in the empathic period may interfere with basic biological mechanisms of living.

The prognosis here will necessarily be most unfavorable with least chance of remission. Delusional formation will tend to be profound, since the person operating with this type of integration frequently manifests infantile feelings of omnipotence in coping with the rest of the world. An enormous sum of fantasy behavior is needed to support his feelings that he is the focus of all important activity. This is the social genesis of the Kraepelinian type of schizophrenia, the so-called dementia praecox.

2. PROTOTAXIC STAGE

A. *Problem:* The discrimination of discomfort in terms of direction.

B. *Description:* The prototaxic mode occurs before the young child has a self-concept as a focus of reference for experience. That is, experience is not yet differentiated in terms of formal distinctions of time or space. The child vaguely prehends earlier and later states of being without any serial connection between them. Prototaxic symbolization is that which occurs without reference to an ego, to "I" or "me."

It is in the prototaxic mode that the little child's experience of the alteration of need and satisfaction is felt. Slowly the experienced disequilibrium of need begins to be manipulated toward its alleviation by pertinent behavior, and through rudimentary symbolic processes.

There is no real movement of thought, however. Experience is discrete and unconnected. Only momentary experience is expressed by the symbolization. But it is upon these momentary stages that subsequent growth is based, so that prototaxic experience is vitally important for later experiences.

C. *Schizophrenic integration:* In view of the primitive form of symbolic conduct characteristic of this mode, and in view of the fact that no self-concept has as yet developed, the schizophrenic personality referable to this stage of development in characterized by a significant amount of magical thinking.

The grandiose schizophrenic makes claims of special power or distinction with little awareness of reality. The delusions are often supported by hallucinations and are poorly systematized. Therefore the claims are very difficult for other persons to comprehend or to share.

The Mignon delusion seems to be especially frequent in the prototaxic stage of schizophrenia, because the crucial problem of this stage lies in the seeking for relief from the mothering one. That is to say that where alleviation is not to be found in the real parent, the schizophrenic person begins to cherish the belief that he is actually the kidnapped or the sole descendant of a

powerful, wealthy, or high-born family. The actual parents are perceived by him as being dupes or frauds. This delusion of adoption may be elaborated upon and extended into public conduct, so that the individual is likely to assert that he was abducted as an infant by outlaws or gypsies or disgruntled domestics.

Generally there are profound disorders of thinking and communication in schizophrenics regressed to the prototaxic organization of behavior, but these are still more coherent than that of the previous level, and there is some effort on the part of the patient to define himself for others.

3. PARATAXIC STAGE

A. *Problem:* The crystallization of a self-system.

B. *Description:* The central idea here is that the self-system becomes more evident. But what is experienced is implicitly and unreflectively assumed to be the natural way of such events. The step-by-step process of symbolic activity is not there, and inferences thus cannot be made. The state of experience is momentary and unconnected.

However, the evolving ability to symbolize enables the child to find selfhood in the behavior of others. He engages continously in a process of transfer, back and forth, between perception of others and perception of self. The self-picture mingles with the picture of significant others. In good measure, the child becomes his mother and his mother becomes himself. When father, or siblings, make their impression upon the child, they become parts of him too.

Gradually, the child is able to perceive the approval or disapproval of parents, whereas he previously only felt it. As his observation improves, his grasp of the approved and disapproved patterns of conduct becomes more refined. The child learns to focus his attention not only on the behavior which brings approval, but also on that which carries disapproval. Thus he becomes better able to avoid disapprobation by alert observation. Out of this alertness the self is first evolved. The tendency to view the self in a valuing way rather than in a devaluing way is correlated with parental approbation.

Anxiety arises from disapproval, restricting not only action, but also conscious thought. Clear thinking does not occur in matters uncongenial to the self; dissociated events are those to which the self refuses awareness and recognition.

C. *Schizophrenic integration:* In the parataxic schizophrenic state, the self-system is unable to prevent the eruption into awareness of the dissociated tendencies which could not be absorbed, even though disowned. These dissociations maintain an autonomy which is independent of the self. The result is fear and terror of inward processes which are beyond control.

An independent personification with greater power than the self, is accorded to the conflict provoking tendencies. The schizophrenic operations are in this sense understood as regressive behavior attempting to protect the self. The symptomatology becomes comprehensible as efforts to regain security in the face of overwhelming threats and portents in a world become mystifying.

The world disaster psychosis is typical of schizophrenic regressions to the parataxic mode of organization. It does not have so abruptly self-disintegrating a course as do the psychoses of the earlier stages. Frequently it is foreshadowed as a flight of panic which follows awakening during the night. The afflicted person, convinced that terrible events are transpiring, is also confused about the persons and objects in his environment.

A particularly significant combination of delusional content is one which ties together world disaster and bowel changes. Deep regression often occurs in terms of excessive preoccupation with the excreta. The

patient is not only extremely untidy but is also given to coprophiliac conduct.

Generally there are nihilistic delusions to the effect that the patient is destroying everything, including himself. There is evidence of the self-system in these patients, but the defensive maneuvers are magical, bizarre, and confused. The prognosis is still unfavorable in this syndrome.

4. THE AUTISTIC STAGE

A. *Problem:* The development of manipulable symbols.

B. *Description:* The learning of language symbols plays a crucial part in the development of the self and the process of acculturation. In the autistic stage, the use of symbols reflects their personal and rich meaning to the individual, for the child's symbol activity is relatively unchecked by reality, and therefore is arbitrary, personal and undisciplined.

This is necessarily so because of his limited experience with the symbol activities of others. Consensuality is lacking. The imagination of the child runs riot, since it is untested and unchecked. Yet it is in this period that the child discovers that fantasy conversations and word play enable him to respond to himself as well as to others.

The child may assume the perspectives and orientations of significant others, or he may produce the gestures of other individuals and then respond himself to these gestures. Mother, father or older sibling's roles can be played. One part is rehearsed and then another. The expectations inherent in these roles can be called out in himself. Role-playing becomes a kind of safe practicing which has consequences for further social interaction, and more refined differentiation between private and public processes.

C. *Schizophrenic integration:* The person who has regressed to this stage, although his hold on reality is better than in the previous stages, is still characterized by paranoid suspiciousness, deep lying hostilities and pathological defensiveness against his own inadequacy feelings. Furthermore, his lack of a consensually validated external group results in established habits of settling personal problems by solitary brooding.

Interpretations made by him and conclusions reached tend to become over-stable since they are articulated symbolically, but are not subjected to social correction. This makes for the construction of a consistent system of delusions. All new incidents fit into this delusional organization. The schizophrenic's perceptions become highly selective.

Out of this context, the paranoid fashions an autistic pseudocommunity whose members are perceived as somehow acting against him. This in turn, leads to conduct on the part of the patient as a reaction against the fantasied malignant acts of imagined persons, or of real persons with fantasied intentions. The patient's conviction as to the reality of this autistic community comes with abrupt clarification: a familiar declaration is that, "It has all become clear to me now!"

The closure brought out by the delusionally organized pseudocommunity adds considerable momentum to the further development of the system of fantasies. Once the autistic community has been formulated and crystallized, it tends to mushroom through increasingly selective perceptions of the same subjective qualities. New persons and activities are included, until a position is reached, where the schizophrenic views the autistic community he has erected as a serious threat to his security.

This is where he is apt to give vent to aggressive, retributory acts, in the area of public behavior, against his fantasied enemies. Society then meets his aggression with heavy negative sanctions like police action or institutionalization, unwittingly presenting the patient with final proof of the reality of his fears by locking him up against his will.

5. THE SYNTAXIC MODE

A. *Problem:* The development of consensus with society.

B. *Description:* The syntaxic mode of experience is learned through the person's attempt to correct the distortions of earlier stages by checking his feelings and thoughts against those of others. As his use of the mechanism increases with age, the child gradually learns his society's patternings of relationships. He catches on to the grammatical structure of his language. Awareness increases greatly as to what to expect as a response to his verbalizations, and that these responses are agreed upon by most members of his society.

It is through this learning that the child's communications are enabled to change from autistic meanings to publicly shared ones. There comes about a concordance with others that allows fairly accurate communication by speech and gesture, and that permits the deduction of useful inference about the conduct and thinking of others.

In general, experiences which can be denoted in discussion are experiences in the syntaxic mode. In this stage of development, the person's impressions as an observer can be correlated with observed activities. New capacities for empathy and experience are formed. The more highly differentiated comprehension of what others are feeling is a process of social symbolic interaction within the child. Undistorted communications permit the achievement of open and gratifying relationships.

C. *Schizophrenic integration:* An individual at this level of functioning might become schizophrenic, but it would be a relatively circumscribed reaction. That is, the syntaxic schizophrenic is likely to be characterized by a less guarded prognosis, a relatively normal prepsychotic personality, and sudden onset with plausible environmental stresses.

Thus it is differentiated from the other modes of schizophrenia which more closely resemble each other except that they are defined here on a maturational continuum as a way of distinguishing their varied onsets and outlooks. In short, it is suggested here that syntaxic schizophrenia occurs more or less as an appropriate reaction to accidental severe stress in normal living, such as traumatic battle experiences. The chances of repetition of breakdown in this mode tend to be minimal.

These stages have been made the basis of a life history rating procedure, in which each patient's history is rated as to the developmental level at which the life circumstances became pathological. Factors considered were such things as age at death of a parent, age of severe physical illness, age when subjected to continuing rejection, and a large number of other items which, according to the literature, occur more frequently among schizophrenics than among normals. These life history ratings were correlated with ratings of the stage of schizophrenia. Rorschach performance scored for age level was one measure of the stage of schizophrenia. A rating of the kind of schizophrenic integration represented in the presenting psychiatric symptoms was a second measure of stage of schizophrenia. Length of hospitalization was also correlated with the life history measure. All correlations were substantial. These results, which will be presented in detail in another report, lend support to the conceptualization presented above.

SUMMARY

To recapitulate the general approach advocated here, it is hypothesized that a fruitful empirical approach to the study of schizophrenia may be made if that dysfunction is understood as a series (or continuum) of responses which reflect the stage of development in the patient's life at which emotional support was severely deficient. Schizophrenia may be *quantitatively* described in terms of that level in life to which the schizophrenic has regressed, be-

yond which development was seriously distorted because of disturbing circumstances of living. The underlying psychological notion is one which proposes that the earlier in developmental history that severe stress prevails, the more damaging will be the consequences on the subsequent course of interpersonal relationships. This is not to imply that at any given point an individual's experience becomes static. What is meant is that deviations in early development may distort later growth and yield serious eccentricities in later behavior. The conceptualization is offered as an amplification and revision of the process-reactive formation (1).

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PERCEPTUAL DIFFERENTIATION AND TWO DIMENSIONS OF SCHIZOPHRENIA[1]

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In recent years, a large amount of the theoretical and empirical literature has dealt with the etiology, the types, and the treatment of schizophrenia. The position taken at this time by various investigators in the field has ranged from the totally psychogenic to the purely neuro-physiological. One of the difficulties in the research of schizophrenia has been the grossness of this nosological category. Bleuler (3) in his classical study of dementia praecox discussed differential recovery rates among his patients, and others since have discussed typical and atypical kinds of schizophrenia. More recent work has tended to separate out two dimensions of schizophrenia on the basis of life history and/or prognostic indicators of remissions. The terms *process* and *reactive* schizophrenia have been the most widely used labels to differentiate two parameters of dementia praecox. The process or typical schizophrenia is thought to be a disorder of gradual or insidious development in which prodromal signs of the illness are present early in life. There is a relative absence of precipitating factors, a failure to interact with peers, an excessive fantasy appears in childhood and the presence of dull, rigid, inappropriate affect is noted relatively early in the life time of these individuals. Withdrawal, autistic logic, and other aspects of deep narcissistic regression are noted in their social service histories. The economic, social and sexual adjustment is inchoate, and in many ways it is as primitive as the thinking disorder. When and if an acute break occurs, the patient tends progressively to deteriorate, sometimes in spite of all attempts at treatment. Eventually a good proportion of these patients form the population of "burnt out" schizophrenic patients, with little likelihood of recovery.

ILLUSTRATIVE CASE REPORTS

The following is a case report of a process schizophrenic.[3]

Mr. R. is a 25-year old white, Protestant, upper middle class male, who has been hospitalized for the last six years with a diagnosis of paranoid schizophrenia. He is a thin, fragile looking young man of medium height. Neither of the parents was anxious to have children, but after seven years of marriage, they thought they had better have a baby before it was too late. The patient was conceived when the mother was 31 years old. Although she reported that a whole new world opened up for her at the birth of the child, it was readily apparent that her involvement with the child was a highly intellectualized one; she never gave free vent to her feelings; in rearing practices she always "followed the book" in the most aloof fashion. The father, a striving, highly successful business executive was frequently absent for two or three week periods from the home. He considered the new baby an unwelcome intruder in the home and resented the baby's interference with any of his own wishes. When the patient was eight months old he developed allergies to a variety of foods which lasted until he was eight years old. He entered nursery school at the age of three and was described by the teacher as having severe behavior problems

[1] In abbreviated form this paper has been published in the *Journal of Abnormal and Social Psychology* (J. Abnorm. & Social Psychol., **59,** 83–86, 1959).

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[3] This and the following case history abstract is not of one of the patients in the present study, and is given for illustrative purposes only.

punctuated by frequent temper tantrums. Her reports also stated that he preferred to play alone, that his speech was frequently incomprehensible and that his gross muscular coordination was quite poor. At home he had practically no contact with other children and spent most of his time close to his mother who exerted no control over his impulses. He entered kindergarten at the age of five and was referred soon afterwards for psychological evaluation because of his behavioral difficulties in school. A sister was born when the patient was seven years old, at which time the mother felt that she had lost interest in R. The daughter became clearly the parents' favorite and while they could be affectionate and playful with her, they tended to be critical and disparaging of R.

In early adolescence the patient attempted suicide by taking household ammonia after an argument with his mother. Other near-suicidal activity is noted during this period. Throughout his adolescence he had many homosexual experiences and was once caught molesting a seven-year old school girl.

Because of his behavioral difficulties he was sent to a private day school at 15. This proved to be an equally stormy period with exacerbation of homosexuality, seclusion and tantrum-like behavior. Soon he refused to attend school altogether, and rarely left the house. After psychiatric evaluation the patient was hospitalized at the age of 18. In the hospital he has been seclusive, seemingly responding to auditory hallucinations. He has been refractory to both somatic and psychological treatment, showing little change in his behavior.

The reactive schizophrenics, on the other hand, show in the examination of their histories a relative absence of the prodromal signs that are noted in the process group. In general, there is a relatively adequate social, economic and sexual adjustment, and a noteworthy precipating stress can be identified. The overall prognosis for recovery in these patients is good. Furthermore, the contrast between these two groups is not simply a difference of severity of illness, as many times the reactive schizophrenic may be more bizarre in his behavior in the acute stage of the illness.

The following case will serve the purpose of illustrating a typical course of the reactive schizophrenic:

Mr. G. is a 27-year old man who is the second of three children, two of which are girls, of a middle class Jewish family. His early medical history is unremarkable, the patient having had the usual childhood diseases. His development was noteworthy insofar as he talked early, worked hard in school, and though he was seemingly popular, complained of feeling lonely. He was quite active in the school science club and worked on the school newspaper. The family is described as a close-knit unit, yet the patient felt that there was no one in the family group in whom he could confide. The father was always busy building up his business and the patient's early relationship with his mother was close, although in adolescence it became much more distant. A major portion of the patient's identification seemed to have been with the paternal uncle who was an unsuccessful writer and was looked upon as a failure. One conflict that was particularly vivid in the patient's mind was the demand by his parents that he pursue a practical, vocational goal at college, while his desire was to major in the humanities. His relationship with girls both in high school and college was limited to intellectual spheres although there was a brief, very intense affair during his junior year in college that was broken off because of religious differences. He entered graduate school and took a Ph.D. in comparative literature. While in the process of completing his doctoral thesis, he accepted a position at a small college 2500 miles away from his home town. It was at this point that an acute psychotic episode occurred. Four months previously the patient's uncle,

who had supported the patient in his creative pursuits against his parents' wishes, died suddenly. It was at this point that the patient began feeling guilty that he had not paid more attention to his parents, and his guilt was intensified after he accepted the teaching position so far from his home. He became more seclusive, was preoccupied with fantasies of sexual experiences, started to hide and lock away his personal possessions from his roommate and began to take heavy daily dosages of a variety of laxatives. His roommate became concerned and persuaded him to go to the student health clinic. Thereupon the patient was hospitalized with a diagnosis of paranoid schizophrenia. His initial course was stormy with periods of complete seclusion and deprecatory auditory hallucinations. He was placed on tranquilizers and entered intensive psychotherapy. After ten months of hospitalization the patient was discharged with substantial remission. He has taken a temporary position in a publishing house not far from his home.

Case histories such as these have led to the hypothesis of two dimensions of schizophrenia with possible different etiologies, or, as Becker (1) has pointed out, the syndromes are "best thought of as end points on a continuum of levels of personality organization." A postulate of a possible organic basis for the process schizophrenia is not necessarily ruled out either. Blackbill and Fine (2) have found that the process schizophrenic reacts to a projective instrument like the Rorschach in a manner more similar to known central nervous system patients than does a reactive schizophrenic.

PERCEPTUAL ORGANIZATION STUDY

In an attempt to evaluate further the process and reactive groups, a study of the level of perceptual organization was conceived, using the same population that Kantor, Wallner, and Winder (7) used in their investigation. When studying levels of perceptual organization, a consideration of Werner's work (10), particularly his ontogenetic principle, becomes important. This ontogenetic principle states that development proceeds from a state of globality and lack of differentiation to a state of increasing differentiation and hierarchic integration. The undifferentiated structure or process is said to be syncretic, diffuse, labile, indefinite, and rigid, while the differentiated and organized structure can be considered as discrete, articulate, stable, definite and flexible. Recently, Friedman, Hemmendinger, and Siegal *et al.* (4, 5, 9) have attempted to link some of these ontogenetic principles with clinical theory and psychoanalytic ego psychology by applying Werner's developmental approach to the structural aspects of perception. Part of the emphasis of these authors has been to view the ego's dynamic role as a determining force in the psychology of cognition.

One of the most widely used clinical-perceptual tasks in personality evaluation is the Rorschach test. For clinical purposes test analysis is based on the interpretation of the content and the interpretation of determinants (form, color, movement, and shading) of the responses and test behavior. In an attempt to arrive at the structural aspect of perception itself, a group of Werner's students utilized a new approach to the scoring of this projective technique. As Hemmendinger (6) has pointed out, "The scoring system of Rorschach response location has been created to reflect genetic changes as, for instance, the amount of separation of the blot areas into parts (differentiation) and the organization of these areas together into a combined whole (hierarchic integration). Both the developmental theory and the ontogenetic evidence allow these Rorschach scores to be distinguished into 'genetically low' and 'genetically high' scores. In terms of the theoretical definition of the scores, they may be considered to be a reflection of the level of perception of the subject." The developmental scores as used by these investigators indicated that the

more seriously impaired clinical group showed a preponderance of genetically lower responses, and as one went up the scale to the less severely impaired clinical groups, the preponderance of higher genetic responses increased.

To examine the process-reactive dimension of schizophrenia through the developmental aspect of perception as measured by the Rorschach, the following hypotheses were formulated. Patients identified as process schizophrenics would show more indices of "perceptual immaturity" as measured by the Rorschach criteria than a group of subjects identified as reactive schizophrenics. The converse hypothesis is that reactive schizophrenics would reflect more "perceptual maturity" as measured by Rorschach developmental scores.

METHOD

The two groups used in this study were made up of 36 patients diagnosed as process schizophrenics and 24 as reactive schizophrenics. The patients in these groups were all those World War II veterans admitted to a V.A. neuropsychiatric hospital during the period of a year, who were diagnosed as schizophrenic, and who were given a battery of psychological tests including the Rorschach. Cases involving multiple diagnoses, latent schizophrenia and/or borderline states were eliminated from the final sample. The patients were classified as reactive or process on the basis of case history information alone without the knowledge of the Rorschach or regard for the severity of the clinical symptomatology. The patients' case history data was based on 24 items in the social service history broken down into four areas of development: birth to fifth year, fifth year to adolescence, adolescence to adulthood, and adulthood. Items in these areas revolved around the intrapsychic, social, sexual and familial spheres. Samples were reliably differentiated into process and reactive categories ($p < .01$) by two judges. For this study only those Ss were included where there was complete agreement among the judges as to the category of schizophrenia.

The method of analyzing the Rorschach protocols followed the system developed by Friedman (4) which reflects levels of perceptual development as suggested by Werner (10). The procedure consists of the analysis of certain Rorschach non-form criteria (*e.g.* fire, smoke, blood), F+ and F− tables, (good and poor form perception), and on the combination of certain areas of the blots, from simple to highly complex organization. All whole and part locations were thus scored, but tiny detail locations were omitted, primarily because of their low frequencies. In our analysis the following scores were used: *DW*, the confabulatory response; *minus*, the usual inadequate form quality; *amorphous*, in which the shape of the blot plays no determining role; *vague*, a diffuse general impression of the blot; *mediocre*, in which the gross outline is taken into account so that specific form implied in the content matches the blot; *plus*, in which two or more discrete areas are combined into one percept; *plus plus*, a response in which a unitary area or the whole blot is perceptually articulated and reintegrated into a well differentiated, unified percept.

The data were evaluated in the following way. The medians for the seven score categories presented above were computed, based on the combined sample, and chi-square analyses were run on the basis of frequencies above and below the median in the process and reactive groups. In addition, *mature* and *immature* groups were set up, which reflected perceptual early and later response processes. These were based on combining *DW*, and *amorphous*, *vague*, and *minus* into the immature category and *mediocre*, *plus*, and *plus plus* into the mature category. For this analysis between process and reactive groups the t test was used. The Rorschach protocols were coded in order to avoid identification of the process and reactive records. Each of the authors scored

the protocols independently, with an agreement per cent of 92.7.

In order to evaluate the effect that intelligence might have on these Rorschach scores, full Wechsler-Bellevue Intelligence Quotients were compared. The mean IQ of the process group was 102.5, and the reactive sample was 105. A t of 0.33 was found to be not significant ($p < .80$). In addition, no significant differences were found in the number of scored Rorschach responses of the two samples.

TABLE 1

Chi-Squares for Differences in Rorschach Developmental Scores for Process and Reactive Schizophrenics

Sub-Score Category	X^2
Plus-Plus	0.904
Plus	4.230*
Mediocre	1.740
Vague	0.003
Amorphous	6.163†
Minus	9.116†
DW	0.294

* $p < 0.05$
† $p < 0.01$

RESULTS AND DISCUSSION

The results indicate that the process and reactive groups react to a perceptual task like the Rorschach in the predicted direction. When the seven scoring categories are combined and then dichotomized into a "mature perceptual" combination and an "immature perceptual" combination, a t of 3.07 is significant beyond the .01 level. Fifty-seven per cent of the responses of the process group are in the immature category, while 20 per cent of the responses of the reactive schizophrenics are in the immature category.

When turning to the individual scores (Table 1) it is seen that the confabulated responses *DW* show no significant difference between the two groups ($p < .60$); however in terms of absolute frequencies, the process group produced seven *DW's* whereas the reactive group produced two. The *minus* and the *amorphous* categories both show significant differences between the two groups beyond the .01 level. No significant differences are found in the *vague* category ($p < .70$). Furthermore, no significant difference ($p < .10$) is evident in the *mediocre* scoring category, but a trend in which the reactives show more of these scores is discernible. The *plus* category is significant beyond the .02 level with the reactives responding with more of these integrated perceptions. The chi-square for the *plus plus* category is not significant. However, the occurrence of these scores is an infrequent event (one in the process and four in the reactive group).

The data therefore indicate in large measure grosser preceptual immaturity within the process schizophrenics and more adequate and integrated perceptual functioning within the reactive group. In terms of more structured material such as the Wechsler-Bellevue Intelligence Test (and also on reports of ward behavior), a similar pattern of functioning is observed in both groups. In fact, on the basis of the global evaluation of intelligence (Full IQ scores) there is no significant difference between the two groups. Since intelligence or, rather, the utilization of intelligence is one of the highest executive and synthetic functions of the ego, an examination of some of the qualitative and possibly quantitative components that lead to an IQ score are likely to disclose differences (*e.g.* subtest pattern analysis and qualitative evaluation of the responses themselves). However, notable differences are demonstrated in reaction to less structured stimuli which facilitate the production of more idiosyncratic and fantasy material.

To the extent that these developmental scores can be thought of in terms of primary and secondary process levels of thinking, the findings indicate that archaic and impulse-ridden materials break through more freely in process schizophrenia, and that there is less ego control over the pro-

duction of more regressive fantasies. This appears to be supported by a brief survey of Rorschach content where direct and unmodulated discharge of impulses appears to be characteristic of the process schizophrenic whereas reflective, logical and organized thinking seems to be more typical of the reactive schizophrenic. Of note here is the *minus* category which in some sense mirrors defective reality testing via reversion to a more primitive model of thinking both genetically and structurally. As Rapaport (8, pp. 271–272) has stated, "Structurally, the emergence and development of thought processes is one aspect of the emergence and development of the ego and thought processes are integral parts of ego processes. They are an outstanding aspect and instrument of reality testing, subserving the reality principle." There is reason to believe that one of the critical differences between the process and reactive groups is in terms of the quality of the thinking disorder.

In a purely speculative realm one might consider that the process schizophrenic mirrors oral deprivation of early libidinal improverishment of the ego, so that regression (or fixation) to the earlier developmental stage is reflected by his perceptual organization. This might be coupled with a constitutional or potentiating predisposition. As far as the reactive schzophrenic is concerned, one might conjecture that weakness in ego occurs at a later stage in psychosexual development, for example, the oedipal stage. Thus, it may be any one event that reactivates the oedipal conflicts, *e.g.* object loss. These speculations are now being systematically investigated by the authors.

Whether there are two different kinds of disease processes, or levels of personality organization, is of course still essentially unknown. The findings of this study can be interpreted in several different ways, but they do not shed any light upon the basic etiological conflict of the constitutional versus the psychogenic. What has been identified in this paper are two possible species or degrees of schizophrenia. This is not to say that these are the only two species nor may they be, especially at this level of conceptualization, mutually exclusive categories. If the process-reactive classification of schizophrenia is further validated regardless of whether it is based on etiological factors or levels of personality organization, this differentiation may serve as a prognostic indicator around which treatment plans might be formulated.

SUMMARY

One of the confounding factors in research in schizophrenia has been the grossness of this classification. The framework of process-reactive schizophrenia was utilized in this study to evaluate levels of perceptual organization based on Rorschach developmental scores. The process group was found to have more immature, regressive perceptions, while the reactive group gave more mature and more highly organized responses. An interpretation and speculation partly based on psychoanalytic theory was offered as a possible explanation of the findings.

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THE PROCESS-REACTIVE DISTINCTION: A KEY TO THE PROBLEM OF SCHIZOPHRENIA?

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In the search for a place to get a foothold on the problem of schizophrenia, one glaring consistency is manifested in the research of the past twenty years. Schizophrenic patients with certain kinds of backgrounds and symptom pictures tend to improve, while those with other backgrounds and symptom pictures tend not to improve. The prognostic studies of Hunt and Appel (8), Langfeldt (12), Kant (9), Kantor, Wallner, and Winder (10), Becker and McFarland (4), Stotsky (16), Benjamin (5), and Wittman (17—19), all have pointed to systematic differences in the personalities and case histories of remitting and nonremitting schizophrenics. These studies have led to a number of terms, all describing the same distinction: malignant-benign, chronic-acute, process-reactive. The significance of these studies lies in their highlighting of an important criterion variable, prognosis, and in their implications for gaining estimates of prognosis in a given case without having to wait five years to obtain follow-up data. The above mentioned work provides one with a means for scaling schizophrenic patients along a dimension from good to poor prognosis, and then permits one to use this dimension as one means for organizing heterogeneous schizophrenic populations for systematic research. Gerald King's recent paper (11) provides an example of this. Many previous studies on autonomic reactivity in schizophrenia have revealed inconsistent findings, but when autonomic reactivity is studied in relation to a prognostic dimension, clear-cut relationships do appear.

Before developing further the implications of a prognosis dimension or a dimension of severity of disorder, a brief discussion of an alternative interpretation of these same findings is needed. Some have suggested that the poor prognosis syndrome represents one kind of schizophrenia, organically based, while the good prognosis syndrome represents another kind of schizophrenia, psychologically based. The notion of two types is very appealing, because such an outcome would make everybody happy—both the physiogenic and psychogenic theorists. However, individual cases do not fall into two groups, but spread out in such a way that the process syndrome moves imperceptibly into the reactive syndrome.

Accepting for the moment the notion of a process-reactive continuum, the syndromes serving to identify the end-points of a dimension of severity, is there a further research lead to be found in the analysis of the descriptive elements defining this continuum? In a previous paper (3), the writer has suggested that it might be profitable to consider this continuum as reflecting the level of organization reached by a given personality in its growth toward maturity. "Level of organization" is a difficult term to define precisely. It is concerned with changes in the content and structure of mental organization as the human organism develops toward maturity. A complete definition would encompass such factors as objectivity in perception, differentiation of needs, interests, and other aspects of personal motivation, and the degree of emotional control or adaptive functioning under stress. Lewin (13), Baldwin (1), and especially Werner (20) have all attempted to deal with this construct. Common to most attempts to conceptualize levels of personality is the general idea that "the development of biological forms is expressed in an

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increasing differentiation of parts and *increasing subordination*, or *hierarchization*" of the parts with respect to the whole (20). This principle applies to phylogenesis as well as ontogenesis. It is appropriately applied to mental development. Werner uses such terms as syncretic-discrete, diffuse-articulated, rigid-flexible, and labile-stable in describing the progression from primitive functioning to higher levels of mental functioning.

While space does not permit an elaboration of details, there seems to be a marked parallel between the process-reactive distinction and Werner's description of levels of personality organization. At the process end of the continuum, the whole development is fixated, *for whatever reason*, at a primitive level; or it might also be that development has been very uneven and then regression has taken place easily and relatively completely. The process syndrome characterizes a person with a relative lack of personality differentiation. Interests are narrow and lacking intensity. There is a rigidity of structure and a lack of internal direction. There is an inability to establish normal heterosexual relations and independence. The need for hospitalization arises when such a person is faced with the normal problems of adult living in our complex culture.

On the other hand, a person falling closer to the reactive end of the continuum seems to have reached a higher level of personality differentiation. The prepsychotic personality is relatively more normal. Interests are more varied and intense. Heterosexual relations are more likely to have been established, and personal motivation and direction is more apparent. More and greater environmental stresses are tolerated before a regressive break occurs. In addition, the vestiges of a higher level of development are still pronounced even in regression and provide the compensating strength to allow recovery when the stresses are removed. The struggle which is indicative of continued ego-function is apparent in the strong affective reactions characteristic of this end of the continuum.

This hypothesis relating the process-reactive continuum to levels of personality organization does not prejudge the etiological basis of schizophrenia, but it does provide a rational guide for further study of this severity dimension.

A brief discussion of a study (3) carried out by the writer a few years ago will illustrate this last point. The problem was focused on the *measurement* of severity of thinking disorder in schizophrenia and on demonstrating the possible yield in regarding the process-reactive distinction as reflecting levels of personality organization.

In the past, many studies have shown significant differences between schizophrenics and normals, or between process and reactive groups in their response to the Rorschach, proverbs tests, and other mental tests. However, the quantification of degree of thinking disorder still remained a poorly defined process of clinical intuition and crude sign analysis. Looking at the severity problem in schizophrenia in terms of genetic levels immediately suggested both theoretical and empirical rationales for quantifying severity of thinking disorder. The theoretical rationale followed directly from Werner's thinking in that greater disorder should be reflected in more diffusenes of response, more rigidity, and so forth. An empirical rationale for scoring could be devised by comparing the responses of children at different levels of development. In the study under discussion, scoring systems were devised for the Rorschach and proverbs test based on such reasoning. The Rorschach scoring, which leads to a mean-genetic-level score (*GL*), was based on both empirical studies with children by Werner's students (6, 7, 15) and on Werner's theory; whereas the proverbs scoring was based solely on theory. A summary of the Rorschach scoring system is presented in Table 1. The reader is referred to Becker (2, 3) for

more detailed rationale and for a description of the proverbs scoring system.

The basic question raised by the study was whether one could predict level of thinking disorder, scored in terms of a developmental rationale, from case history ratings on a process-reaction dimension. Wittman's Elgin Prognosis Scale was used to define the process-reactive dimension, or, in other terms, level of personality organiza-

TABLE 1

Definitions and Examples for the Rorschach Genetic-Level Scoring System

Level	Classification	Definition	Examples
1	Amorphous Whole (*Wa*)	Shape plays no determinable role.	I. "Black paint" II. "Fire and smoke"
	Minus Whole (*W*−)	Content requires specific form not provided by blot.*	I. "A fly" IV. "Starfish"
	Confabulatory Response (*DW*)	A single detail is basis for interpretation of the whole.	VI. "Cat," because of "whiskers"
	Contaminated Response (*Con R*)	Fusing of two interpretations of the same blot area.	VI. "Turtle-skin rug"
	Fabulized Combination (*Fab C*)	Absurd combination on basis of spatial contiguity.	X. "Rabbit with worms coming out of eyes"
	Perseveration (*Per*)	Same content to 3 or more cards with little regard to form requirements.	I, IV, V. "Spider" VIII, IX, X. "Internal organs"
2	Amorphous Detail (*Da*)	Analogous to *Wa*.	II. (*D* 2 "Fire" VIII. (*D*) 6) "Flesh"
	Confabulatory Detail (*DdD*)	Analogous to *DW*.	VI. (*D* 3) "Cat's head," solely on "whiskers"
	Minus Detail (*D*−)	Analogous to *W*−.*	II. (*D* 2) "Kittens"
	Vague Detail (*Dv*)	Form element is so unspecific that almost any blot area could encompass content.	X. (*D* 9) "Island"
	Minus Unusual Detail (*Dd*−)	Analogous to *W*−.*	VI. (*Dd* 25) "Pig's foot"
3	Vague Whole (*Wv*)	Analogous to *Dv*.	I. "Piece of a puzzle" X. "Design," "Map"
	Oligophrenic Detail (*Adx-Hdx*)	Response to part of an *A* or *H* percept usually seen as a completed figure.	III. (*D* 6) "Head of a person" V. (*D* 4) "Wing"
	Plus Unusual Detail (*Dd*+)	Content is a reasonable match to blot area isolated.*	X. (*D* 26) "Funny face"
4	Mediocre Detail (*Dm*)	Form implied in outline and articulation matches blot area. At level of "populars."	III. (*D* 3) "Bow tie" X. (*D* 15) "Little Bird"
	Mediocre Whole (*Wm*)	Analogous to *Dm*, but applies only to unbroken blots.†	I. "Bat," "fox's head" VI. "Mud turtle"
5	Plus Detail (*D*+)	Two or more *D* areas are combined into one "good form" percept.*	II. (*D* 1's) "Bears fighting"
	Plus Whole (*W*+)	All *D* portions of a broken plot are combined into one "good form" percept.*†	II. "Two fellows at a bar toasting each other"
6	Plus-Plus Whole (*W*++)	An unbroken blot is perceptually articulated and reintegrated into a "good form" percept.†	IV. "A giant sitting on a stump"
	Plus-Plus Detail (*D*++)	A *D* area is articulated and reintegrated into a "good form" percept.	X. (*D* 8, left) "Guy riding a horse"

* Beck's tables are used as a guide in scoring.

† Unbroken blots are I, IV, V, VI, and IX; broken blots are II, III, VII, VIII, and X.

tion. The Elgin Scale consists of 20 subscales, weighted according to prognostic significance (the basic criterion). Included in the subscales are evaluations of prepsychotic personality, nature of onset, typicality of psychosis, heterosexual interests, etc., in other words, variables relevant to the process-reactive distinction. A brief identification of each scale can be found in Table 3.

The subjects for this study were 51 hospitalized schizophrenics. All but seven were first admission patients. The subjects were tested within the first week of hospitalization as a part of normal intake procedures. The details of the rating procedures and analysis can be found elsewhere (3). However, the reader should be assured that numerous safeguards were taken to avoid contamination of the test data with the case history ratings.

The major findings of this study were as follows. The Rorschach *GL* score correlated with the Elgin Scale $-.599$ ($p < .01$) for 24 males, and $-.679$ ($p < .001$) for 27 females. The average correlation for the total sample was $-.641$ ($p < .001$). A more process-like picture on the Elgin Scale was significantly related to a lower *GL* score on the Rorschach. The correlation of the proverbs test, corrected for vocabulary IQ, with the Elgin Scale was $-.682$ ($p < .001$) for males, and .048 for females. The failure of the proverbs test with females has not been explained.

Table 2 presents a breakdown of the Rorschach responses for good and poor prognostic scale groups. This allows one to examine the adequacy of the scaling assumption made earlier. There are only three exceptions out of a possible 19 to the assumptions made in placing scales from low to high genetic levels. *Dv* appears to belong at level 4 rather than level 2, *DW* failed to show discrimination at level 1 (*cf.* the paper by Fine and Zimet), and *D*++ failed at level 6 (this response occured only twice). These failures may be due to sampling and measurement errors or to actual misplacement. The findings presented in Table 2 give considerable support to the theoretical net discussed earlier and are consistent with thinking in terms of a dimension of severity.

In preparation for this symposium, some of the data from the above study were factor analyzed to see what light this might shed. The matrix which was factored included a number of background variables, the 20 Elgin Scale subscores, and a Rorschach *GL* score based on only the *first response to each card*. The Rorschach measures were entered into the score matrix as two half-scores, based on five cards each, and a total score. An answer was being sought to the question of whether a shorter form of the Rorschach could be used with adequate reliability. The corrected split-

TABLE 2

*Item Analysis of the Rorschach Scoring System**

Level	Rorschach Category	Percentage of Responses		Within Category Percentage	
		Poor Prognosis Group	Good Prognosis Group	Poor Prognosis Group	Good Prognosis Group
1.	*Per*	1.29	0.00	100	00
	Wa	4.09	0.93	81	19
	W−	7.53	4.27	64	36
	DW	2.15	2.04	51	49†
	Con R	0.65	0.37	64	36
	Fab C	4.95	3.16	61	39
2.	*Da*	2.80	1.30	68	32
	DdD	1.29	1.12	54	46
	D−	11.40	10.97	51	49
	Dv	3.87	5.20	43	57†
	Dd−	4.30	2.79	61	39
3.	*Wv*	9.68	7.43	57	43
	Dd+	6.45	4.83	57	43
4.	*Dm*	23.66	31.41	43	57
	Wm	9.89	11.15	47	53
5.	*D*+	4.52	9.67	32	68
	W+	0.86	2.23	28	72
6.	*W*++	0.43	0.93	32	68
	D++	0.21	0.19	52	48†
		100.02	99.99		

* Based on an N of 49

† Deviations from predicted direction

TABLE 3
Rotated Factor Loadings

Variables	B1*	L1†	B2	L2	B3	L3	B4	B5	B6	B7
1. Sex: male	48		−15		−34		−16	12	−20	−12
2. Age	−09		−13		05		−58	−07	−16	14
3. Marital status: married	−67		−20		−22		19	09	09	32
4. Cooperativeness	−39		−09		−21		09	27	−41	−28
5. Mental illness in family: present	−20		03		41		−17	47	19	−36
6. Marital status parents: divorced	07		−06		05		18	08	23	−80
7. Vocabulary IQ	−04		−26		11		−72	14	17	10
8. Rorschach R	−32		14		−19		11	30	−51	−15
9. Age of separation from parents	18		04		−01		−12	−09	−14	78
10. Rorschach GL I‡	−42		−55		13		−20	−29	17	−26
11. Rorschach GL II§	−33		−71		25		−06	03	−03	04
12. Rorschach GL Total	−46		−64		25		−07	−12	01	−19
13. Education	−24		06		19		−68	01	09	07
14. Defect of interest‖	92	93	04	19	00	−08	07	−09	07	04
15. Insidious onset	79	87	−08	35	−25	21	−12	12	−13	−04
16. Shut-in personality	84	86	06	17	30	−04	08	05	−10	−01
17. Schizothymic personality	85	85	−08	32	07	−02	05	08	07	10
18. Narrow range interests	85	81	02	36	−07	26	22	−01	20	05
19. Constitutional bias	67	73	04	−05	−12	04	30	−03	−17	−10
20. Low energy tone	84	70	−09	23	−06	−04	15	−17	03	17
21. Asthenic build	−09	68	14	38	08	01	−26	−26	−20	−42
22. Lack of heterosexual contact	79	65	13	03	18	24	−24	−04	−15	−08
23. Marked academic interests	49		−04		64		−07	00	29	−10
24. Careless indifference	12	12	25	23	−71	84	19	−06	16	14
25. Exclusiveness, stubbornness	11	−01	26	08	−71	84	07	02	16	07
26. Good health history	30		27		04		−24	56	13	−09
27. Lack of precipitating conditions	62		03		13		01	43	−08	25
28. Long duration psychosis	61	41	23	56	−46	27	02	16	−13	−03
29. Inadequate affect	64	47	30	43	−15	40	−31	16	22	18
30. Hebephrenic symptoms	54	41	48	59	−13	19	−06	−28	24	11
31. Ideas of influence	11	01	16	29	11	17	−21	−24	−29	−48
32. Physical interpretation delusions	45	00	48	65	00	01	26	01	−21	−04
33. Lack of typical symptoms	59	57	07	60	−37	03	−28	20	27	04
34. Clouded sensorium	25		00		−17		−04	60	17	−09
35. High life stress	27		19		−13		03	01	−23	72

* Quartimax orthogonal solution, Becker (B).
† Oblique solution, Lorr (L).
‡ Based on the first response to cards I, III, IV, VII, and IX.
§ Based on the first response to cards II, V, VI, VIII, and X.
‖ Variables 14 to 33 are from the Elgin Prognosis Scale.

half reliability using only one response per card was .68. While this reliability is not exceptional, it is adequate for some research purposes.[2]

Seven centroid factors were extracted from the correlation matrix and rotated by an electronic computer to orthogonal simple structure.[3] The results of this analysis are presented in Table 3, together with the re-

[2] The correlation of this shorter form of the Rorschach with the Elgin Scale was −.58, which compares favorably with the −.64 found using all Rorschach responses, but does suggest some loss in reliability and therefore validity.

[3] The Quartimax method of Neuhaus and Wrigley was used. The correlation matrix and the arbitrary centroid factor matrix have been deposited as Document number 6045 with the ADI Auxiliary Publications Project, Photoduplication Service, Library of Congress, Washington 25, D. C. A copy may be secured by citing the Document number and by remitting $1.25 for photoprints, or $1.25 for 35 mm. microfilm. Advance payment is required. Make checks or money orders payable to: Chief, Photoduplication Service, Library of Congress.

sults of a previous factor analysis of the Elgin Scales made by Lorr, Wittman, and Schanberger (14). Factors 4, 6, and 7 represent intelligence, cooperativeness, and marital status of parents, respectively. Factor 5 is difficult to identify. The highest loadings on factor 5 are on history of mental illness in family,[4] excellent health history, lack of precipitating factors, and clouded sensorium.[5] The Rorschach *GL* score and the Elgin Scales did not load to any degree on factors 4 to 7.

The remaining three factors, as can be seen from Table 3, parallel very closely the three factors Lorr *et al.* found with 17 of the 20 Elgin Scales, using an oblique solution. Factor 1 was called *schizophrenic withdrawal* by Lorr and loads on such things as defect of interest, insidious onset, shut-in personality, long duration of psychosis, and lack of precipitating conditions. This factor by itself might aptly be called the process-reactive dimension. At one end it defines the typical process syndrome and at the other the typical reactive syndrome. At the same time it is the major factor in a set of scales devised on the basis of a prognosis criterion. The Rorschach *GL* score loaded −.46 on this factor.

Factor 2 was called *reality distortion* by Lorr, loading on hebephrenic symptoms, bizarre delusions, and inadequate affect in the present analysis, and also on ideas of influence in the Lorr analysis. The Rorschach *GL* score loads −.64 on this factor. Factor 3 loaded mainly on careless indifference and exclusiveness-stubbornness in both analyses. The opposite pole of this factor is characterized by such traits as insecurity, inferiority, self-consciousness, and anxiety. This seems to be a factor of *emotional rigidity* versus *manifest anxiety*. The Rorschach *GL* score loaded .25 on this factor.

Before one can make any further inferences about the implications of these results, it is necessary to look more closely at the factor plots to find out if the orthogonal solution did justice to the data in terms of a simple structure criterion. When factors 1 and 2 plotted against each other, it becomes immediately apparent that an oblique rotation is required which would introduce a correlation of from .60 to .70 between the schizophrenic withdrawal and reality distortion factors. Similar obliqueness is found between factors 2 and 3, suggesting the presence of a second-order factor. The writer did in fact carry out an oblique solution and second-order factorization using the Oblimax program on an electronic computer and did indeed find a major second-order factor loading schizophrenic withdrawal and reality distortion variables. However, there are several reasons for not giving too much attention to the actual results of this solution. First, the sampling of behaviors in the Elgin scale overweights the withdrawal factor since such variables as defect of interest, shut-in personality, schizothymic personality, narrow range of interests, lack of heterosexual contact and low energy tone are essentially repeat evaluations of the same behaviors. This behavior sampling bias (and the possible resulting correlated errors) gives factor 1 undue weight and biases the direction of a general factor (or second-order) toward the withdrawal component. Secondly, it is not possible accurately to locate second-order factors with only seven reference points (*i.e.* seven first-order factors). Finally, the sample size and the related sampling errors in the present study greatly limit inferences about any second-order factor derived from the data. The present findings do *suggest*,

[4] History of mental illness was scaled as follows: 0—no parent, aunt, uncle, or grandparent hospitalized for MI; 1—one aunt, uncle, or grandparent hospitalized for MI; 2—more than one aunt, uncle or grandparent hospitalized for MI; 3—one parent hospitalized for MI; 4—both parents hospitalized for MI.

[5] Sensorium was rated as follows: 0—clear, well oriented to time, place, person; 1—some clouding, moderate disorientation to time; 2—moderate clouding, vagueness about time and place; 3—severe clouding, shows marked disorientation to time, place, or person, or all of these.

however, a good probability that a general severity factor, loading primarily schizophrenic withdrawal and reality distortion variables, does exist. It is interesting to note in this respect that most definitions of schizophrenia describe as the essence of schizophrenia "withdrawal from and distortion of reality."

Theoretically the demonstration of a second-order severity factor, meeting simple structure criteria, would be of some interest and would support some of the assumptions made in this paper. From a practical point of view or from the point of view of research strategy, however, it makes little difference, for one can try both a general severity factor approach and a multiple factor approach. At this time sufficient evidence is available to justify a diagnostic procedure in which factor estimates are obtained for: (a) schizophrenic withdrawal, based on Elgin scale ratings for defect of interest, shut-in personality, insidious onset, lack of heterosexual contact, lack of precipitating conditions, and long duration of psychosis; (b) reality distortion, based on the Rorschach *GL* score; and (c) emotional rigidity, based on Elgin scale ratings for careless indifference, and exclusiveness-stubbornness traits. For various research purposes, these factor score estimates could be used separately or summed (with a double weighting for factors 1 and 2) to obtain a severity index.

Having good measures of severity of psychosis would of course be very useful in making diagnoses with truly prognostic significance. However, the research implications are even more important. With valid and reliable severity indices it becomes possible to test the relevance of suspected causal factors by relating them to these criteria. For example, if an enzyme deficiency or overproduction is suspected as playing a role in the schizophrenic process, one should expect variation in the amount of such a deficiency or overproduction to be related to variation in one or more of the severity measures. One would certainly wish to examine more closely a physiological variable which showed such covariance than a variable which did not, *but which might incidentially differentiate schizophrenics from normals.* In a similar way environmental variables could be evaluated. Needless to say, this more stringent covariance criterion would lead to fewer false hopes than the currently used criterion of testing the ability of a suspected agent to differentiate schizophrenics from normals.

A reminder to the readers that schizophrenia has a temporal dimension is in order. With severity measures available, it becomes possible to study changes in severity of disorder over time, as well as changes under various therapies. Or again, it is possible to study the intra-individual covariance of biochemical measures with behavioral severity measures in seeking leads to causal relationships. When one moves from a general measure of severity at one time to a measure of change, however, it becomes more and more important that one have reliable criterion measures. At this point the Rorschach *GL* measure is probably not sensitive or reliable enough (particularly at the higher levels) for use in studies of change, although it certainly is adequate for basal state type studies. It is to be hoped that the current efforts by both Eysenck and Cattell to find objective test measures of psychoticism will provide the field with better measures in the near future.

SUMMARY

It has been proposed that looking at the process and reactive syndromes in schizophrenia as end-points of a continuum of severity of illness, and at the same time as reflecting levels of personality organization, opens up a number of research strategies which offer promise of increasing our knowledge about schizophrenia. Several findings which support the value of the above mentioned proposals have been discussed. The implications of these findings for better

measurement of severity of illness in schizophrenia have been pointed out. Finally, it has been suggested that systematic use of severity measures in research on the etiology of schizophrenia may provide the key to lock this mysterious door.

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PREMORBID ADJUSTMENT AND PERFORMANCE IN SCHIZOPHRENIA: IMPLICATIONS FOR INTERPRETING HETEROGENEITY IN SCHIZOPHRENIA[1]

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INTRODUCTION

The observation that schizophrenic patients are a heterogeneous lot is not an uncommon one. A symposium directed solely toward reiterating such an obvious fact would be prosaic and commonplace at best, since a substantial body of evidence drawn from fields such as physiology, biochemistry, psychology, genetics and psychiatry support a concept of schizophrenia as one encompassing a heterogeneous group of disorders. Thus the concept of reaction-types has evolved to denote differences in various symptom pictures subsumed under the disorder. Hoskins aptly stated the problem posed by using the single term "schizophrenia" for a wide range of symptoms when he noted that "the possibility must still be faced that 'schizophrenia' may be an entity by fiat only, as are disorders in general that are delimited merely on a basis of symptoms. For all that we know explicitly to the contrary the psychosis may be strictly comparable to such diagnostic entities as "headache" or "hypertension", each of which has a common core manifestation but each of which may represent very dissimilar disorders. The first and most fundamental question of all then, explicitly what *is* schizophrenia must continue disconcertingly to face us. . . ." (19, p. 72).

[1] This article and the studies reported herein were developed as part of a project supported by USPHS-NIMH Grant M-629. An abbreviated version of this paper was read at a symposium on "Process-Reactive Schizophrenia" at the annual meeting of the American Psychological Association, Washington, D. C., August, 1958. The authors express their appreciation to those current and former students whose contributions are described in this paper.

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Attesting to the complex and diverse nature of the disorder are wide variations in such relevant factors as these: premorbid personality patterns of patients; the time interval preceding the onset of the disorder; the types of precipitants which presumably actuate the disease; the symptom picture during the course of the illness and subsequent prognosis. A variety of terms—dementia praecox-schizophrenia, process-reactive, chronic-episodic, typical-atypical, evolutionary-reactive, true-schizophreniform—have appeared in the literature to describe these differing patterns of the disorder. Of these, the concept of a "process" type of schizophrenic patient in contrast to a "reactive" one has received wide acceptance in some quarters. The former is used to describe a patient who has exhibited a poorly integrated prepsychotic personality, characterized by marked sexual, social and occupational inadequacy, a lack of emotional responsiveness and social isolation. The slide into psychosis, for this patient, is usually insidious and without pertinent stress and most frequently occurs in late adolescence. The disorder is made manifest by the gradual onset of emotional blunting, withdrawal from daily activities, apathy and indifference, somatic delusions and marked disturbances in thinking—a pattern which may be maintained through long years of hospitalization.

Wiener has recently provided a description of the modal "reactive" type as follows:

"From birth to the fifth year, the maturational and developmental history showed no defects, physical health was good. Generally school and home adjustment was good. Parents were accepting. Heterosexual

relationships were established. The patient had friends and domestic troubles did not disrupt his behavior.

"The onset of the illness was often sudden with a clear-cut, understandable precipitating event. Aggression was expressed verbally. Decency was retained. The course was fulminating, with massive hallucinatory experiences, ideas of reference, and mild paranoid trends, as well as sensorial impairment. A thought disorder was present according to some authors, but not others. Response to treatment was good" (34, pp. 156–7).

In the light of these descriptions it is quite obvious that from a clinical standpoint some differentiated typology of schizophrenia would seem to be warranted. But the somewhat arbitrary separation of patients into "process" and "reactive" types sets forth a dichotomous conception of the disorder. This dichotomy has been accentuated by the application of a dualistic conception of etiology. Thus, fundamental to the separation have been the twin etiologic notions of an organic substrate for one (process) and a psychogenic base for the other (reactive).

"The most enlightened psychiatric thought," wrote Hoskins, "is gradually coming to an acceptance of the assumption that the psychosis is a genuine entity that consists of true 'process' or 'constitutional' schizophrenia and should be set aside from the various schizophreniform reactions that are frequently grouped with the true psychosis" (19, p. 71).

SCHIZOPHRENIA AS A DICHOTOMOUS TYPOLOGY

Despite recurrent failures to find support for a fundamental biological deviation associated with the disorder (24) the view of schizophrenia as a dichotomous typology influenced either by somatic *or* by psychic factors has been maintained for many years. One can identify some of the reasons underlying such a persistent and tenaciously-held formulation:

1. The fact that some types of schizophrenia seem to have a readily identifiable psychogenic precipitant whereas no obvious stressors are seen in other cases all too frequently has led to the conclusion that somatic considerations alone influence the latter group.

2. Discomfort with the current state of psychological research—its complexity, diffuseness, imprecision and (at times) superficiality—has led some investigators to look longingly toward the greater exactitude and lesser complexity promised by the biological sciences. Recent advances in studying the biology of schizophrenia (7, 24) undoubtedly have reinforced the belief that the complex problems of the genesis of this disease are more researchable in fields such as biochemistry and physiology. Coupled with these advances has been an awareness by investigators of the great methodological difficulties inherent in any effort to reconstruct retrospectively, through the verbal reports of patients or parents, the early family milieu of an individual (4, 16).

3. The biases of individual investigators have also played a role in accentuating a simplified dichotomous conception of the disorder. Benjamin (7) has pointed out how the reductionistic biases of some investigators deny the possibility of attributing causality to psychological variables. Graduate training in all disciplines all too frequently produces the type of tunnel vision in research to which Benjamin has assigned the very appropriate terms of 'biophobia' and 'psychophobia.'

4. The comfort of the "*either-or*" solution creates ready adherents to a mind-body dualism. The lack of an adequate theoretical conceptualization of schizophrenia which can effectively incorporate both psychological and biological variables tends to foster such simple choices. On the other hand, a tolerance for ambiguity above and beyond the call of duty is required of investigators who are called upon to accept a "psychosomatic view of schizophrenia

which conceives of any given case as actually occurring on some point of a continuum from a hypothetical point of complete psychogenicity to a hypothetical point of complete organicity" (5, p. 444). Such a vague begging of the question fails to create islands of comfort for either the biophile, the psychophile or their phobic counterparts.

DEVELOPMENT OF PROCESS-REACTIVE CONCEPT

Certainly, on the basis of empirical evidence, there is little substantial support for a process-organic versus reactive-psychogenic formulation of the etiology of schizophrenia (24). Nevertheless, this view has been maintained for many years and has been reinforced by the historical development of the concept of schizophrenia. A brief examination of several highlights of that development may indicate how the process-reactive formulation came to be associated with the concept of differentiated etiologies and prognoses.

Kraepelin, as the great taxonomer of the psychoses, brought order and system to the chaotic mass of symptoms he studied. His criteria for classification was essentially a prognostic one—some disorders (*e.g.* manic-depressive) were reversible or self-limiting with recovery and remission predetermined for such patients; others were not only incurable but actually were deteriorative in nature. Dementia praecox occupied the latter niche and therapeutic efforts were "based on the complacent expectant attitude that if (the disease) is a dementia praecox the patient will deteriorate" (38, p. 456). The Kraepelinian influence was modified by the genius of Bleuler whose perceptive systematizing of observations of patients led him to conclude that dementia praecox could not be considered a disease entity but rather a group of reactions for which there existed correlated dimensions based upon premorbid, mental status and prognostic factors. By indicating that not all cases of schizophrenia showed the deteriorative consequences postulated by Kraepelin, the study of remission and the factors potentially responsible for it came into more central focus. Although Bleuler, like his great predecessor, believed in a basic organic substrate for the disorder, his conceptualization of "the group of schizophrenias" allowed for the gradual introduction of a more psychologically oriented position in which mechanisms of autism, delusions and the like were seen as secondary adaptive symptoms (often dependent upon "psychic influences and interests") in contrast to a primary thought (association) disturbance. Thus, the way was opened for subsequent psychodynamic formulations of schizophrenia and a development of interest in its psychological antecedents and correlates. Concern with a process-reactive concept could only occur as greater attention came to be focused on both the behavioral antecedents for schizophrenia and the variations and qualitative dissimilarities of behavior exhibited during the period of psychosis. Bleuler's observation that the disease "may take a course which is both qualitatively and temporally rather irregular (with) constant advances, halts, recrudescences or remissions possible at any time " (9, p. 245) paved the way for many prognostic studies which were carried out in the late 30's and early 40's in America (10, 21, 22, 27, 30). To this development must be added the contribution of Adolf Meyer who conceived of schizophrenia as an abnormal type of habit pattern which evolved out of biological, cultural, sociological and psychological influences and experiences. To understand the patient and the disorder, Meyer made extensive use of life history methods which provided a framework for correlating case history antecedents with subsequent prognosis.

The irregularities in the clinical course of the disorder which had been observed by Bleuler and others is simply another manifestation of the variability so characteristic of the schizophrenic patient. With such

clearly disparate clinical patterns present in the disorder an obvious research strategy for investigators (irrespective of discipline) would be to search out the sources of the heterogeneity in one's observations. By paying greater attention to subject variables one could reasonably expect that greater patient homogeneity would result in a reduction in response variability—whether such responses reflected biological or psychological variables.

It is all the more surprising, then, to find a marked neglect of the problem of differentiating among schizophrenic patients in experimental research—this despite the recognition of an almost ubiquitous variability which characterizes data obtained from samples of schizophrenic patients in both physiological (19) and psychological (20) investigations.[3]

However, the *need* for a more adequate separation of patients in research has been recognized. In an earlier review of the literature, Bellak wrote:

"We believe that it may be helpful to make a diagnostic division by differentiating definitely between schizophrenia and dementia praecox.... We believe that such a differentiation is justified in view of the results of prognostic studies.... The most significant result of all (studies) was that almost any data observed showed a greater variability than in normals.... We believe, in general, that differentiation of the group may lead to more clear-cut results in all fields of research and its problems....

"It is believed that with the help of such diagnostic criteria the results on studies of any nature will become more uniform, will be interpreted more easily, and, therefore, lead to a final clarification of many still obscure problems" (5, pp. 445–447).

DIAGNOSTIC CRITERIA: METHODOLOGICAL PROBLEMS

Although the conclusions drawn by Bellak may be overly optimistic, his suggestion of differentiating among schizophrenic patients seems eminently sensible. However, more than a decade later this dictum has been largely ignored by many investigators interested in schizophrenia. What are the criteria to be used for the selection of schizophrenic subjects for research which would reduce some of the response variability? Even the researcher with a pervasive belief in more adequately differentiating within a schizophrenic group would be greatly handicapped when confronted with subjective descriptions of unscaled dimensions, however valid these would be as prognostic criteria.

The Elgin Prognostic Scale (35) does provide a quantitative ordering of 20 relevant dimensions which are weighted for prognostic significance. Its disadvantages, however, include an unwieldiness rooted in an overly-elaborate, multivariate structure, a partial adherence to a constitutional and somatotypic bias, a descriptive vagueness in several dimensions and a dependence upon extensive life history and mental status data which often are not available in the typical case history file. Despite these shortcomings the scale has been used effectively by a number of investigators (3, 23, 28, 36).

Several of these objections have been overcome in the simpler, empirically-derived Scale of Premorbid Adjustment de-

[3] There have, of course, been many attempts to categorize patients on the basis of the more traditional diagnostic sub-types. The ambiguous results obtained by such methods are not surprising since a distribution by sub-types varies markedly along a prognostic dimension. Although the simple and hebephrenic groups tend to become the more chronic cases with catatonics showing a more favorable prognosis, the greater bulk of experimental cases are frequently drawn from the paranoid subgroup (largely because of their relative intactness). Such patients, however, are distributed quite widely along a continuum of social adequacy in the premorbid period; samples of these groups, then, are invariably heterogeneous and contain an admixture of prognostically favorable and unfavorable subjects. A recent survey we have completed of 120 schizophrenic patients varying in sub-type and divided into "good" and "poor" premorbid sub-groups lends support to these generalizations.

veloped by Phillips (32). Both the Phillips and Elgin Prognostic Scales stress such factors as interest and participation in social activities, heterosexual activity and the maintenance of object relations, the type of precipitant presumed to actuate the disorder, and manifestations of the disease process including such mental status contents as adequacy of affect and mood, thought disturbances, etc. On the other hand, the Phillips Scale does not include ratings of such elusive concepts as constitution (*e.g.* "a healthy, strong, energetic, physical and mental makeup that makes the interplay between heredity and environmental influence during childhood a satisfactory one,") low energy tone, asthenic build, toxicity or exhaustion, etc. The Phillips Scale provides for a quantitative rating of three types of case history data—social and sexual history in the premorbid period, the precipitating event and the signs of the disease process. Recent research (1, 8, 12, 14; 15, 17, 18, 26, 33, 37) suggests that separating patients on the basis of adequacy or inadequacy of social-sexual premorbid adjustment (*i.e.* into so-called "good" and "poor" premorbid subjects) results in a marked reduction in the variability in schizophrenic performance.[4]

Other reasons for using the premorbid sub-scale alone are these: 1) The types of case history data needed to secure a valid scale rating is minimal; 2) Phillips' original study (32) indicates that the premorbid scale is the best predictor of remission;[5] 3) Case history information available for rating the precipitating event and descriptions of the mental status report are frequently skimpy or indeterminate; 4) Several reliability studies indicate a high correlation ($r = +.80$ and higher) for the premorbid scale ratings of experienced clinical faculty members and less sophisticated graduate students who have been trained in the use of the scale. Of even greater importance are recent findings that ratings secured from patient informants result in assignments to premorbid categories which are virtually identical with those based upon case history data. In one study in which information obtained from patients was compared with data available from the case record, it was found that the assignment to the same premorbid category occurred in 43 of the 46 cases. Thus in the absence of an adequate case history, the patient can be used as a respondent to secure data necessary for assignment to an appropriate premorbid category.

[4] To the reader the separation of patients into "good" and "poor" premorbid categories may suggest that we too have a dichotomous conception of the disorder which is coterminous with the process-reactive differentiation. This is not so. The separation of patients into "goods" and "poors" is not founded on a theoretic belief involving differentiated etiologies but is simply a first entry into the problem of reducing variance through the use of a scaling instrument with marked limitations. Although "goods" and "poors" do share some attributes which have been assigned to "reactive" and "process" cases, our own position is theoretically neutral and makes no assumptions involving an exogenous-endogenous position. Indeed the research of our group strongly suggests that premorbid adjustment can be thought of as a continuous rather than a dichotomous distribution. In several recent studies the use of the scale in a trichotomous fashion provides further differentiations within the groups (15). For experimental convenience, however, we have taken to using the extremes of the distribution—an arbitrary but useful procedure. Therefore, our own view of "goods" and "poors" is based upon utilitarian considerations. The critical empirical problem which remains unanswered is that of determining the nature of the range of differences in performance between the groups in various tasks and the exploration of personality variables and life history factors which are correlated with such differences. Such research is now in progress at Duke University.

[5] Originally we believed that this finding held primarily for male patients. A larger proportion of non-remitted female patients score in the "good" premorbid range because marriage and maintaining a stable home appear to be less differentiating items for such patients. However, a recent comparison of 24 remitted and 19 non-remitted female schizophrenic patients indicates significant differences between the groups in level of premorbid social and sexual adequacy. Marital status, too, has proved to be highly differentiating. These data are now being cross-validated on another sample of female patients.

RESEARCH REPORTS

The predictive and construct validity of the Phillips Scale has been described in considerable detail elsewhere (33). A brief description of three experiments will indicate the effectiveness of the scale in reducing the characteristic variability in performance of groups of schizophrenic patients and in "teasing out" significant differences between such groups and control patients—differences which although present may be obscured by the heterogeneity of the schizophrenic sample.

VISUAL DISCRIMINATION

In a study of visual discrimination, Dunn (13) presented schizophrenic and normal control Ss with the stimulus scenes which appear in Figure 1. These scenes (which were selected for their presumed cue relevance for the patients) consisted of a series of silhouetted mother-boy figures depicting *Scolding*, *Whipping*, and *Feeding* interactions with a more neutral *Objects* (*house-tree*) picture. A series of five variations of each scene was prepared in which an incidental component of the standard picture was systematically modified. The standard and five variations of the Scolding scene are illustrated in Figure 2. In this sequence the mother's arm gradually descended in a 45° arc toward the boy. In similar fashion the angle of the tree limb was varied in the Object scene; the variant for Whipping

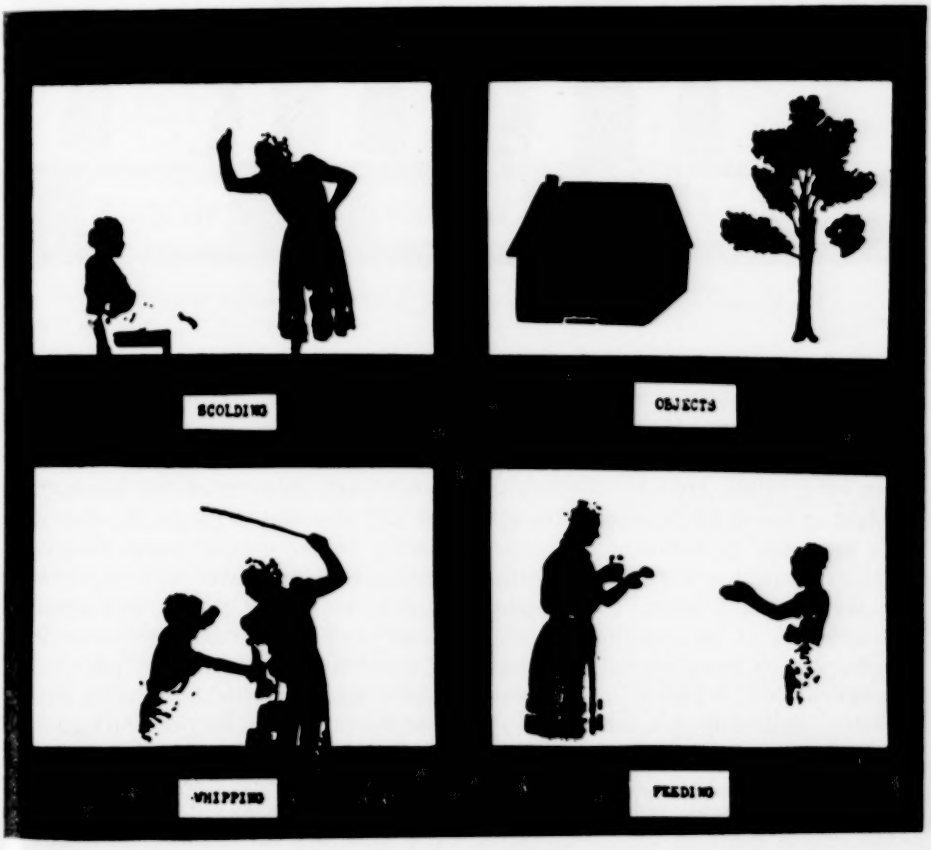

FIG. 1. The four scenes used in Dunn's experiment (From [13]).

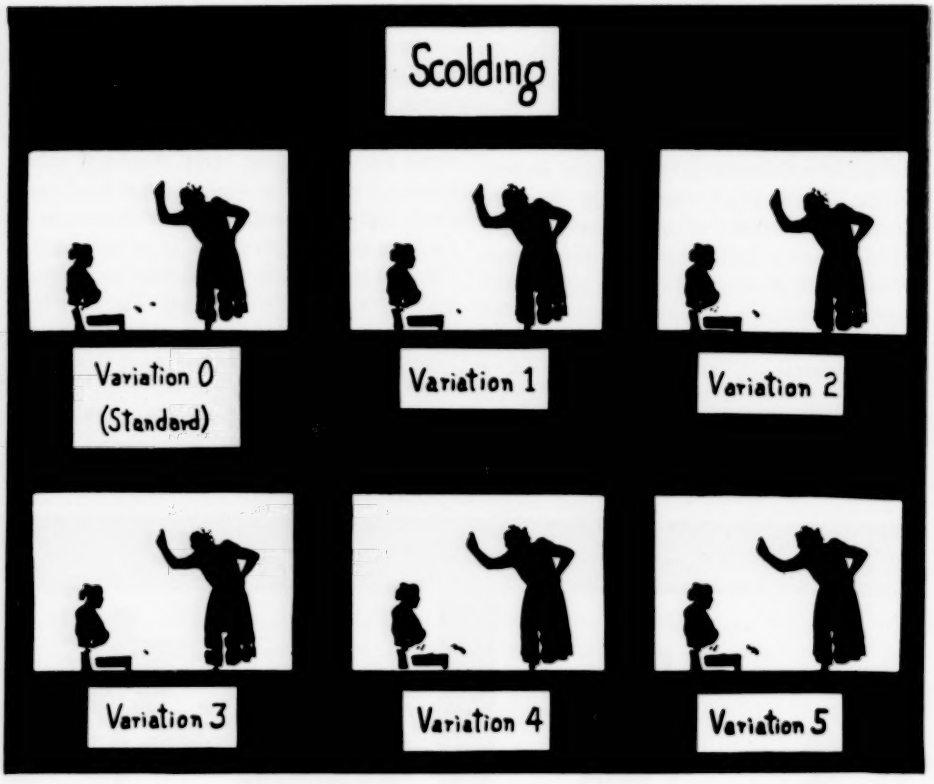

FIG. 2. Variations in the Scolding scene used in Dunn's experiment (From [13]).

and Feeding was the spatial separation of the figures. The procedure of the experiment involved a brief (1 sec.) exposure of the standard scene followed, after a 2 sec. pause, by a ⅕ sec. exposure of either the standard or one of its variations. The subject's task was to determine, after each paired exposure, whether the two pictures were the same or different. This judgment was indicated to the experimenter when the subject made an appropriate movement of a switch lever. A plot of the frequency of "same" judgments as a function of the magnitude of the figural variation afforded a measure of the relative discriminative skills of the normal and schizophrenic groups. These gradients of discrimination for all four stimulus scenes are presented in Figure 3. The results indicated that there were no differences between the groups for the *Whipping*, *Feeding*, and *Object* scenes. For *Scolding*, however, the schizophrenic patients exhibited a markedly flatter gradient and presumably poorer discrimination relative to the control group. When the Phillips Scale was later used to subdivide further the patient sample into so-called "good" and "poor" subgroups on the basis of social and sexual adequacy prior to the illness, the results indicated quite clearly that the variance in the *Scolding* scene was produced primarily by the poor premorbid schizophrenics. These results, which are presented graphically in Figure 4, lend support to a hypothesis of a differential sensitivity to pictorial representations of censure by

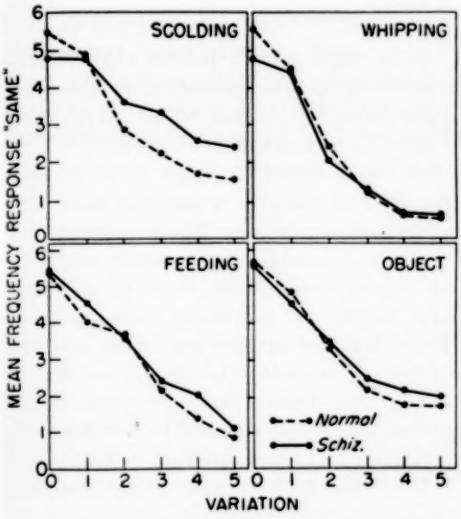

FIG. 3. Mean frequency of "Same" responses to each variation of each series for schizophrenic and normal Ss (From Dunn [13]).

poor relative to either normal or good premorbid schizophrenic subjects. Of relevance here are the additional findings that patients with poor premorbid histories report more intensely disturbed relationships with their mothers (13, 17, 18, 33).

VERBAL LEARNING: REMINISCENCE

In another study, performed by Bleke, (8) a verbal learning task was used to compare reminiscence in schizophrenic and normal (control) patients. Reminiscence has been defined as an increase in retention which occurs over time (and in the absence of practice) and follows the cessation of learning once a partial criterion has been reached. The theoretical relevance of the concept has been detailed elsewhere (29) but central to many theories of reminiscence is the notion that interferences which are generated during learning, dissipate in the course of a rest interval, leading to improved retention in the post-rest period. Bleke hypothesized that a verbal task learned under "punishment" (the lighting of a "Wrong" signal to provide information about errors) would generate marked interferences and subsequent reminiscence effects following a rest period for schizophrenic but *not* for normal control patients. On the other hand, no improvement in retention was posited for either group under a "reward" condition in which a "Right" signal operated to signal correct responses.

When the two groups were compared for reminiscence under the reward and punishment conditions the results indicated a trend in support of the hypothesis, although the heightened variability of the schizophrenic group did not permit a rejection of the null hypothesis.

In Table 1 these results, together with data derived by again separating the total schizophrenic group into subgroups of *"Goods"* and *"Poors"* are presented. It can be seen that the premorbid separation helps to clarify the findings. It is the poor premorbid group, confronted with a learning problem under threat of punishment, which

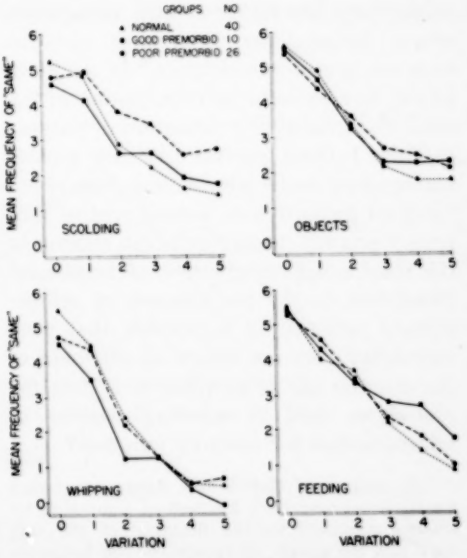

FIG. 4. Mean frequency of "Same" responses to each variation of each series for good and poor premorbid schizophrenic and normal Ss.

TABLE 1

*Reminiscence Scores for Good and Poor Premorbid Schizophrenic Ss and Normal Ss under Conditions of Reward and Punishment**

Experimental Conditions and Groups	N	Mean Reminiscence Score	SD
Total Normal Group—Reward	20	+0.75	2.14
Total Normal Group—Punishment	20	0.00	2.28
Total Schiz. Group—Reward	20	+0.20	1.77
Total Schiz. Group—Punishment	20	+1.10	2.42
Schizophrenic Group Subdivided on Basis of Premorbid Level of Adjustment			
Poor Premorbid Schiz. Ss—Reward	10	0.00	1.94
Poor Premorbid Schiz. Ss—Punishment	10	+2.50	1.68
Good Premorbid Schiz. Ss—Reward	10	+0.40	1.56
Good Premorbid Schiz. Ss—Punishment	10	−0.30	2.23

+ = Reminiscence

* From Bleke (8).

shows the greatest amount of reminiscence. If threat of censure does generate interferences, these are rather specific to patients whose prepsychotic behavioral patterns were tenuous and inadequate.[6] In addition, as can be seen from an examination of the measure of variability (standard deviation) in Table 1, these patients also show greater homogeneity under punishment than either the good premorbid or normal control subjects. Certainly, these results run counter to the more usual observations of heightened variability in the performance of schizophrenic patients. Is it possible that such variability does not reflect an attribute of the disorder *per se* as much as it does the procedures used in selecting samples of schizophrenics for research purposes?

[6] An analysis of Bleke's data suggests that such interferences may be a function of competing responses produced by the demands of the task itself and the growth of avoidance-type behaviors which are generated by poor premorbid patients only during the course of learning under punishment (33).

SIZE ESTIMATION AND SYMBOLIC VALUE

In a third study, Harris (18) related distortions in size estimation to the symbolic value of stimuli which were being judged by schizophrenic and control Ss. Patients were asked to judge from memory the sizes of pictures which had been previously shown to them. These pictures, seen in Figure 5, were accompanied by appropriate verbal descriptions so as to eliminate any ambiguity regarding their contents. These included mother-son scenes of overprotecting, rejecting (ignoring), dominating and feeding (acceptance) relationships together with a more neutral tree-brush scene and that of a geometric figure (square).

When the schizophrenic group was once again separated along the dimension of social adequacy as measured by the Phillips Scale, striking trends emerged. Figure 6 offers a comparison of the size estimates

FIG. 5. The scenes used in the size-estimation task. The actual pictures were negatives of the above scenes (From Harris [18]).

made by groups of good and poor premorbid patients and normal control subjects. It can be seen that Poors showed a marked tendency to overestimate the sizes of mother-son pictures, whereas Goods leaned toward underestimation with the normal subjects most clearly approximating objective equality.

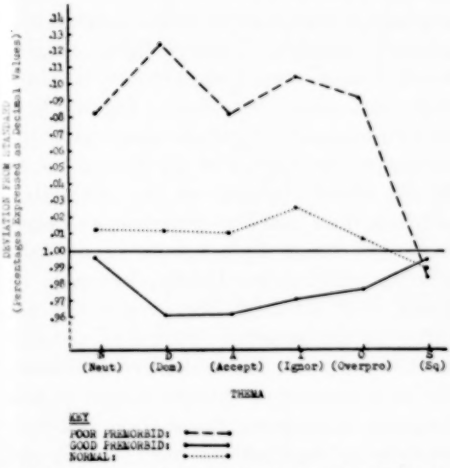

FIG. 6. Mean size estimates of each of the six scenes for good and poor premorbid schizophrenic and normal groups (From Harris [18]).

What if Harris had failed to separate his patient group? In that event, his results would have proved disappointingly ambiguous. In Figure 7 the data for the two subgroups of schizophrenic patients have been combined. It can be seen that schizophrenic and normal groups do not differ significantly in accuracy in judging the sizes of contentually relevant pictures. Combining the data of good and poor premorbid Ss results in mean values which approximate the objective reality achieved by normals in estimating the size of a standard stimulus; but this is clearly an artifact produced by summating the widely disparate and bidirectional behaviors of the two subgroups of patients. Had Harris, then, viewed the schizophrenic group as a totality he would have committed a Type I error (the rejection of a hypothesis which is true). To return once more to the problem of variability, it is of importance to note that the combined schizophrenic group

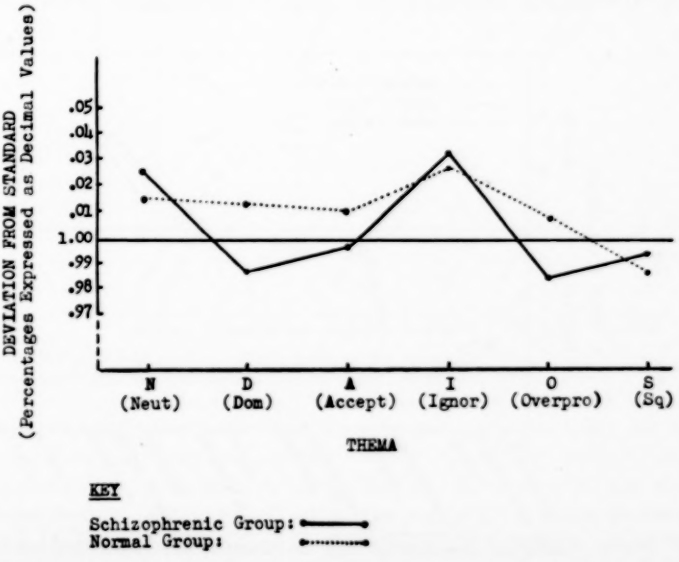

FIG. 7. Mean size estimates of each of the six scenes for total schizophrenic and normal groups (From Harris [18]).

showed such marked variability in performance that a comparison of the variances of the experimental and control groups by F tests for each scene necessitated, in most instances, rejecting an assumption of homogeneity of variance—a condition which did not obtain when the good and poor premorbid separation was employed.

RECENT STUDIES: SIGNIFICANCE OF CENSURE

A study recently completed by Engelhart (14) affords some insight into the sensitivity of poor premorbid patients to criticism or censure and its consequent influence on their performances as manifested in the Dunn and Bleke studies. Using Osgood's Semantic Differential (31) (an objective method for studying the multivariate differentation of the meanings of individual words or concepts) Engelhart had good and poor premorbid schizophrenic and normal control patients rate concepts of affection (*Sympathetic, Affectionate, Loving*), rejection (*Indifferent, Neglecting,* and *Ignoring*), domination (*Dominating*), punitiveness (*Scolding, Fault Finding, Punishing*), overprotection (*Protecting, Sheltering, Babying*), and severity or strictness (*Severe, Harsh, Strict*). These traits were paired with scales from the Semantic Differential reflecting maximum loadings on the three major dimensions of meaning defined by the instrument. The dimensions and the polarities representative of each were these: *evaluative* (nice—awful, kind—cruel, fair—unfair); *potency* (heavy—light, large—small, strong—weak) and activity (sharp—dull, fast—slow, hot—cold). Figures 8, 9 and 10 respectively present graphically the results of the ratings of all groups for 14 of the above concepts on the evaluative, potency, and activity dimensions. Engelhart will detail these results in a forthcoming publication. Briefly, however, he found that although the groups did not differ in the semantic attributes assigned to the concepts on the evaluative dimension, the poor premorbid patients tended to rate concepts of rejection, domination and punishment as significantly more potent and active relative to the good premorbid and normal control subjects.

These results may clarify the earlier findings of performance deficits exhibited by

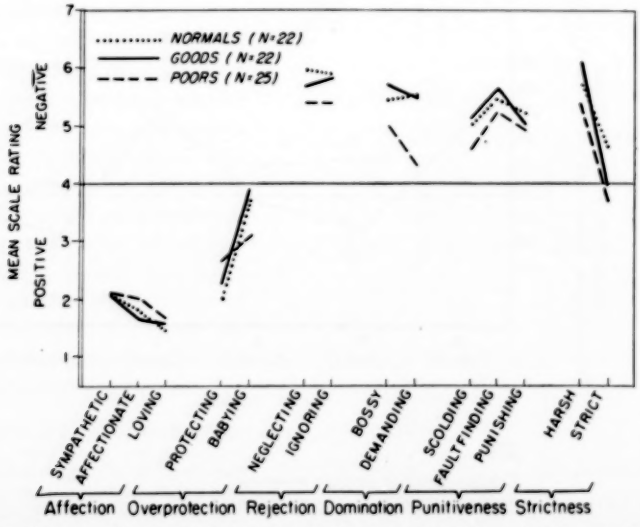

FIG. 8. Mean ratings on the evaluative scale of the semantic differential for good and poor premorbid schizophrenic and normal groups (From Engelhart [14]).

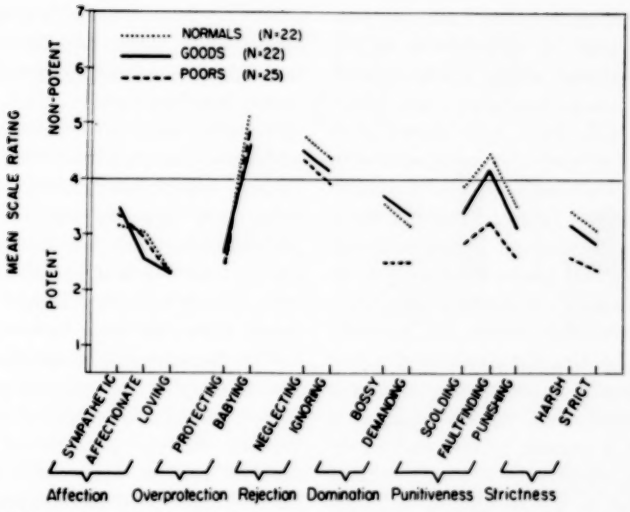

FIG. 9. Mean ratings on the potency scale of the semantic differential for good and poor premorbid schizophrenic and normal groups (From Engelhart [14]).

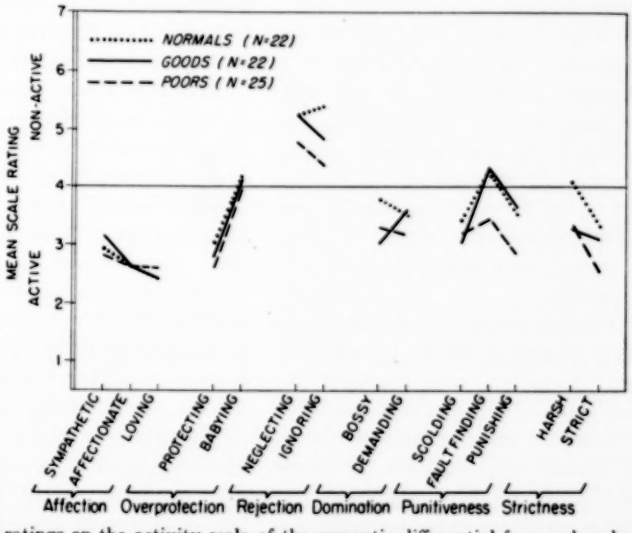

FIG. 10. Mean ratings on the activity scale of the semantic differential for good and poor premorbid schizophrenic and normal groups (From Engelhart [14]).

Poors when confronted with tasks involving experimenter-induced censure or the pictorial representation of censorious parent-child relationships (33). Engelhart's demonstration that Poors perceive censuring concepts as distinctly more powerful and vigorous would suggest that such schizophrenic patients bring to situations in which censorious stimuli are operative marked differences in the meanings they are prepared to assign to such cues. Such differential meanings would be congruent with the patient's omnipresent perception of threat in his external environment (2, 11)

and could serve to mobilize habitual patterns of avoidance or withdrawal in response to such threat which would conflict with effective task performance (33). Bleke (8) and Zahn (37) have both shown that poor premorbid schizophrenic patients who are engaged in learning and discrimination tasks which require them to manipulate a switch lever to indicate an appropriate response, tend to avoid (more frequently than do normal or good premorbid subjects) those lever movements which are immediately followed by the illumination of a box reading "Wrong". Subsequently, Alvarez (1) demonstrated that merely pairing a photograph of a person (rated previously by patients as affectively neutral) with a "Wrong" signal in an incidental learning task, results in a greater decline in preference for such pictures by poor premorbid schizophrenic patients.

A final point is quite relevant to the earlier discussion of the attributes of a process-reactive dichotomy. As has been noted, the term "process" schizophrenia has been equated in the literature with origins that are essentially endogenous and organic in contrast to the presumed exogenous-psychogenic antecedents of a "reactive" schizophrenia. Indeed, such assertions have been made so repetitively that the process-organic, reactive-psychogenic pairing has been treated as if it were a truism by some investigators. Thus an oversimplified dichotomy of types of schizophrenia has been made isomorphic with an equally oversimplified picture of causation. It seems necessary to observe that a premature declaration of support for such a simple distinction can conceivably do a major disservice to research in the psychology of schizophrenia.

RECENT STUDIES: PATIENT-PARENT RELATIONSHIPS

Several recent studies conducted at Duke suggest that variations in premorbid adequacy may be related to differences in familial organization—a finding which could conceivably have implications for understanding the schizophrenic disorder. Garmezy, Stockner and Clarke (17) had patients give answers to child rearing attitude scales as they believed their mothers and fathers would have answered these when they were "growing up." Poor premorbid patients relative to Goods and Normals assigned more deviant attitudes to both parents. However, intrafamily comparisons based upon the same items indicated that, unlike the maternal dominance asserted by Poors, striking patterns of paternal dominance were characteristic of the Goods. The typical clinical pattern of a dominant mother and an ineffectual father so frequently described as characteristic of the families of schizophrenic patients (25) may hold (from the standpoint of the patient's perception) for the poor premorbid group, but such role patterns tend to be reversed in the good premorbid group.

Recently, Farina completed a study (15) in which he used a structured situational test to examine patterns of dominance and conflict in parents of schizophrenic patients. Using 36 sets of parents (equated for education and social class status), divided into three groups based upon the hospital status of their biological sons (poor and good premorbid schizophrenics and a control group of parents of tubercular patients who had never exhibited psychiatric symptoms), Farina presented his subjects with a series of hypothetical situations depicting either the misbehavior of a son or a problem situation involving parent and son. Typical of the situations he used were these:

"While shopping for a windbreaker for your twelve year old son you see a coat his size which you like very much. You know your son wants a windbreaker and this coat is very different from what he wants but you think the coat would be much better for him. Which do you buy?"

"A gang of boys calls to your eight year old son to come out and play. You don't

think it is good for your son to play with these boys but now he starts to leave the house to go with them."

These and comparable structured situations were presented to each parent for solution singly and then to the two parents in concert. Farina used objective indices suggestive of dominance, such as the frequency of times each parent spoke first and last, the extent to which one parent yielded his or her own solution to one provided by the partner, the frequency of occasions in which one spouse passively accepted the solutions suggested by the other, etc. For indications of conflict, indices such as these were used: frequency and duration of simultaneous (overlapping) speech, frequency of interruptions by mother and father, the number of failures by the parents to come to a mutually acceptable solution, the frequency of disagreements and aggressions exhibited by each parent, etc.

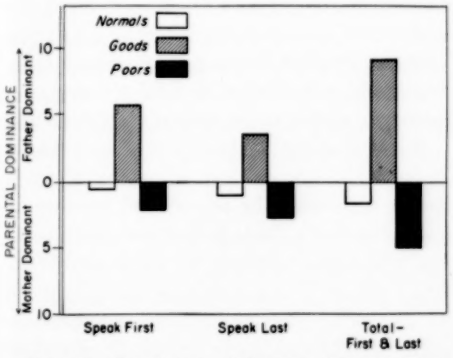

FIG. 11. Dominance behavior (Speaks First, Speaks Last and Total-First and Last) of parents of good and poor premorbid schizophrenic and normal patients (From Farina [15]).

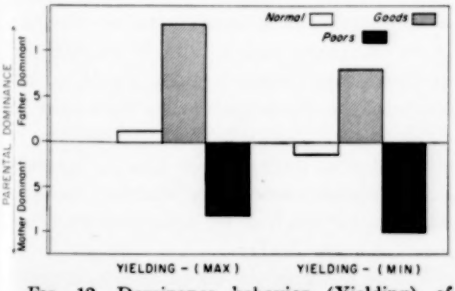

FIG. 12. Dominance behavior (Yielding) of parents of good and poor premorbid schizophrenic and normal patients (From Farina [15]).

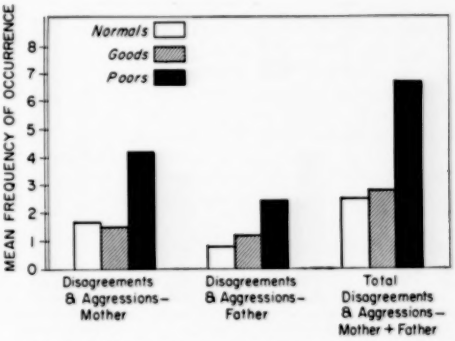

FIG. 13. Conflict behavior (Disagreements and Aggressions) of parents of good and poor premorbid schizophrenic and normal patients (From Farina [15]).

Figures 11 (Speaks First and Last) and 12 (Yielding)[7] present graphic evidence in support of greater mother dominance in the poor premorbid parent group and greater father dominance among the Goods. Conflict measures are represented in Figures 13 (Disagreements and Aggressions) and 14 (Interruptions). These graphs reveal the marked conflict which characterized the behavior of the poor premorbid families. The results of Farina's experiment may be summarized in this fashion:

Good Premorbid Parent Group: The father is strongly ascendant—far more so

[7] "Speaks First," "Speaks Last" and "Total First and Last" refers to the frequency of times (summed for all 12 stories) a parent initiated and concluded an interaction. For the "Yielding" measure Farina ordered the parental solutions along a dimension of amount of pressure placed upon the child to conform. The "Yielding" score indicated the extent to which a parent during the interaction session relinquished his or her individual solution to the problem in the direction asserted by the spouse. The terms "maximum" and "minimum" refer to alternate solutions to a problem which were occasionally given by a parent. Since these alternatives often varied along the pressure-for-conformity dimension, maximum and minimum yielding scores were computed based upon these variations.

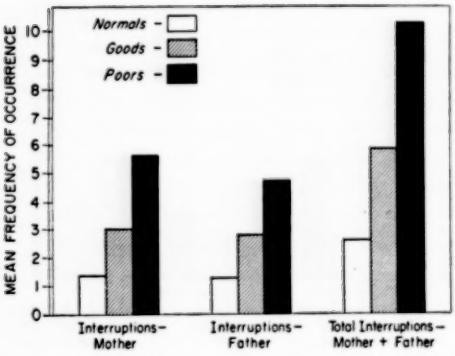

FIG. 14. Conflict behavior (Interruptions) of parents of good and poor premorbid schizophrenic and normal patients (From Farina [15]).

than is true for the normal control group; the mother is weak and submissive. Although there are some signs of overt discord these are not as striking as those evidenced by the poor group.

Poor Premorbid Parent Group: The mother is markedly dominant with father tending toward the submissive. Striking patterns of conflict and discord are present.

Normal Control Parent Group: There tends to be a shared pattern of authority with a minimal tendency toward maternal dominance and very little indication (if any) of conflict between parents.

These findings appear to be supported by more recent data obtained by Dunham (12) and Kreinik (26). These studies indicate tendencies on the part of poor premorbid patients to show deficits in visual discrimination and concept formation when maternal censure cues are employed as a component part of the stimulus; on the other hand, good premorbid patients show some deficit if cue stimuli depicting paternal censure are employed. In general, however, the Poors show greater deficits relative to the Goods. Dunham's research is of particular interest because he repeated Dunn's technique, in which the subject was required to detect minor variations in tachistoscopically presented materials. The Poors showed their maximum deficit on the mother-son scolding scene; Goods were most adversely affected by the father-son scolding picture. In a somewhat related fashion, Alvarez (1) had found a maximum decline in preferences by Poors for female-censured photographs. On the other hand, Goods showed their greatest decline with male-censured pictures.

These studies tentatively suggest that two groups of schizophrenic patients differing in prognostic potential also differ in sensitivity to experimental cues. These differential reaction sensitivities, in turn, may be related to variations in early child-rearing experiences. It would certainly be congruent with current knowledge of the identification process to find that the more assertive role of the father in good premorbid families is reflected in the greater social adequacy and maturity level achieved by their sons—an adequacy which is confirmed both by Phillips Scale ratings based upon premorbid adjustment and laboratory performance under stress during the psychosis.

These findings suggest a need to reassert Benjamin's admonition of more than a decade ago when he introduced an experimental test of a process-reactive dichotomy. His statement appears to have equal validity today. Commenting on the ascription of an endogenous-process and exogenous-reactive relationship in schizophrenia Benjamin wrote, "That this assumption is premature in the present state of our knowledge of schizophrenia is clear. Perhaps it is true; perhaps not. But the demonstration of qualitative differences between the two types of illness and a reliable method for distinguishing between them, would surely obligate the investigators in this field to consider the possibility of differences in etiology and pathogenesis and to conduct his researches accordingly, whether these be along psychological or neurophysiological lines" (6, pp. 70–71).

We do not urge the acceptance of a given position regarding psychological or biological antecedents in schizophrenia. Quite the

contrary. The findings of our research group of an interrelationship among the variables of premorbid adequacy, differential sensitivity to censure, prognosis and types of familial organization suggest that varying patterns of early experience *may be* related to the schizophrenic disorder. Continued research and a growing understanding of dimensions such as these may help one day to understand the nature of antecedent-consequent relationships in schizophrenia. One can only agree with Kety that "it is not necessary that one be convinced of the truth of a particular hypothesis to justify devoting one's energies to testing it. It is enough that one regard it as worth testing and that the tools be adequate" (24, p. 1596). Perhaps it is time that a general moratorium be declared on idle speculations about the genesis of schizophrenia and that investigators turn their energies instead toward creating those conceptual and methodological "tools" which will ultimately help to provide the data necessary for long sought solutions to the problem of schizophrenia.

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ANTI-SOCIAL BEHAVIOR OF ADOLESCENTS FROM HIGHER SOCIO-ECONOMIC GROUPS

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Literature on juvenile delinquency is replete with studies of offenders from low income groups who live in blighted areas and usually belong to some ethnic group more prone to produce offenders than others. Economic privation, crowded and inadequate living areas, sub-culture mores, culture conflict, and other environmental factors are the reasons given by some workers for the origin of crime in such areas. Milne (8) states that as families tend to move into middle class areas delinquency tends to diminish. On the other hand, psychiatric studies from the time of Healy suggest that anti-social behavior is more determined by family structure and inner conflict, in connection with intra-family relationships, than the presence or absence of good housing, recreation areas, social agency help, and comparatively modern school houses.

When an adolescent from a higher than average income group commits an offense, it is common experience to find surprise and astonishment that one from a "good" family could be anti-social. It is often claimed that when such delinquency occurs it is committed by youths who have been "spoiled" by material possessions or, satiated by ordinary experience, are seeking thrills, and that upper class position determines non-punitive disposition.

Very few studies have been made of the sociological and psychological factors contained in the anti-social behavior of adolescents from this higher income group. A review of the literature reveals no reports on a relatively large number of cases.

The major question to which we are addressing ourselves is whether, after stripping delinquency from its alleged socio-economic breeding ground, it is possible to isolate causal factors which are peculiar to the phenomenon of anti-social behavior.

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METHOD

The authors reviewed the records of 55 male adolescents who were enrolled in the Devereux Schools over a five year period subsequent to delinquent behavior which led to police contact. The terms "delinquent," "acting out," "anti-social personality," have such different meaning to those who deal with these problems that, in reports of this type, grave semantic difficulties occur. We have attempted to transcend such difficulty by using a simple, single criterion: if the individual had been involved with police or juvenile authorities he was considered a fit subject for this study.

In order to focus attention on anti-social behavior, it was felt necessary to control for the factor of gross psychiatric disturbance. Studies of delinquency are sometimes criticized because, while explaining the presence of mental conflict, they do not explain (if such explanation is possible) why the individual "chose" anti-social behavior as a solution to his conflicts. Cohen (3) has stated this problem very well. If a "normal" control group were to be employed, any differences found between groups might well reflect the sheer existence of psychiatric disturbance. Accordingly, in obtaining a control group, the authors reviewed the records of 50 boys who were enrolled for residential treatment because of maiadjustment, but who had had no contact with police or juvenile authorities.

TABLE 1

Type of Offenses in the Community Leading to Police Contact

Offense	Number of Counts	Percentage of Total Counts
Auto theft	20	19.6
Traffic violations	6	5.8
Theft, other than autos	19	18.6
Breaking and entering	6	5.8
Armed robbery	1	1.0
Illegal possession of weapon	4	3.9
Physical assault	5	4.9
Vandalism and malicious mischief	13	12.7
Loitering and disorderly conduct	6	5.8
Fire setting	3	2.9
Defiant, rebellious child	4	3.9
Runaway	4	3.9
Sexual offenses	11	10.7

A random selection of control students in the School could not be made however, because diagnostic categories would have been too dissimilar, that is, there would have been a gross overweighting of cases of psychosis, organic brain disease, and mental deficiency in the control group. There was a low incidence of these types of disorders in the police contact group, a not insignificant observation in itself. Therefore, controls were chosen to match for age, and frequency of psychosis and brain damage. Ages in both groups were similar (Mean = 15.8 control; 16.2 police contact), and the age range (13 to 21) was the same in both groups. All members of both groups were white, and the majority were Protestant. There were many more Catholic boys in the police contact group than in the control group, and conversely, many more Jewish boys in the latter.

The items chosen for study from our clinical files were selected on the basis that the relevant information was included in the records. These files generally include a preliminary history form completed by parents prior to enrollment, a more complete social history at the time of admission, reports from schools, clinics, and any professional person who had had prior contact with the child, and our own in-take psychiatric and psychological evaluations. As would be expected, not all of the desired information was available in each case, but there were enough entries in most items to permit reliable statistical evaluation.[2]

FINDINGS

Offenses most frequently committed by the police contact group are auto thefts and traffic violations (speeding, driving without a license, etc.). These, together with other types of thefts, breaking and entering, and robbery, constitute by far the greatest majority of offenses (Table 1). Vandalism, disorderly conduct, and loitering constitute a third category, while sexual offenses (exhibitionism, molesting young children, homosexuality) are also relatively frequent. Theft and vandalism are also found very frequently in lower economic offenders (5). Auto theft is committed comparatively more often by upper income offenders, while the lower economic group appear to commit burglaries more often.[3]

Referral reasons for our control group included poor school work, marked conflict with parents and siblings, anxiety, immaturity, poor peer relationships, and a general tendency toward withdrawal. These data are presented in Table 2. It should be remarked that the delinquent and control groups were of the same socio-economic background, as indicated by the similarity of their fathers' occupations (Table 3). The mean I.Q.'s (Wechsler-Bellevue) of the groups were virtually identical (106, 106.7). I.Q. range for delinquents was 75 to 130.

[2] Differences between groups were tested by the t test for the difference between proportions. Differences reported are significant at or below the five per cent level of confidence, unless otherwise indicated in the tables or the text.

[3] Glueck and Glueck (5) studied delinquents during the pre-war and war years when cars were possibly not as readily available as they are at present. This element may possibly account for some of the difference in comparative frequency of offense.

suggesting that this type of offender is not mentally defective. However, it is possible that intelligence plays a different role, as will be discussed later. In contrast, Glueck and Glueck found that in a lower economic group of delinquents, 42 per cent of their cases had a full-scale Wechsler I.Q. below 90.

The anti-social acts were seldom committed for utilitarian reasons or personal gain. Automobiles as a rule were taken for power and speed, not for transportation as such. Breaking a rule without much forethought was common, and this short-sightedness gave the impression of a lack of sense and judgment. An apparent lack of logic characterized most of the offenses. For instance, a boy who had been released from a correctional institution on probation promptly drove through a red light at 80 miles an hour. In general there was very little shrewdness or cunning in this behavior, but rather a kind of satisfy-the-need-of-the-moment impulsiveness. Often this was coupled with an inordinate disdain for authority, with a prominent sadistic element. Upon apprehension, the typical reaction was defiance and unrepentance. Conscious anxiety and guilt upon apprehension was apparently absent in at least three-quarters of the cases. At the time of enrollment only 25 per cent of the anti-social group showed signs of overt anxiety as compared to 52 per cent of the control "neurotic" group. This difference is statistically significant. Glueck and Glueck also found a low incidence of marked overt anxiety in their delinquents. Among those who came into difficulties with the law, there were in our group only a few who could be diagnosed as psychoneurotic, in the formal sense of the term. There were none with a clear cut psychosis and only one case diagnosed as Chronic Brain Syndrome. Glueck and Glueck found a similar low incidence of psychosis and brain injury in their delinquents. It is of some interest to note that there was no instance in which alcohol or narcotics played a role in the commission of the offense.

TABLE 2

Referral Problems in Control Group

Problem	Number of times mentioned
Hostile at home, conflict with parents	20
Poor school work	23
Homosexual tendencies, excessive masturbation, sex preoccupation	6
Limited interests (cars, horses, etc.)	4
Behavior problem at private school	3
Hyperactivity	1
Aggressivity with peers, poor peer relations	11
Withdrawal	11
Anxiety and emotional problems, somatic complaints, immature	17
Suicidal threats or attempt	3
For therapy subsequent to hospitalization for mental illness	7
Bizarre behavior at home	4

TABLE 3

Fathers' Occupations

	Police Contact Group	Control*
Industry, executive	40%	34%
Engineer	12%	10%
Merchant	12%	6%
Misc. business	10%	18%
Attorney	8%	8%
Physician	4%	6%
Misc. professional	10%	8%
Night club and gambling	4%	2%
Farmer and other	0%	8%

* None of the differences between groups is significant.

The stereotyped reaction is one of surprise when a boy from a "good" family or "good" home suddenly gets into trouble, but few of the "final" offenses of our delinquent group should so be viewed. In the home, chronic lying, stealing, defiance, and disregard of rules was present in 79 per cent of the police contact group, and in only 32 per cent of the control group. Similarly in school, such misbehavior as truancy, disruptiveness in the class room, defiance of authority, and other behavior problems occurred in 88 per cent of the

TABLE 4

Grade at Which Disturbed Behavior at School Became Evident

	Police Contact Group (N = 40)	Control* (N = 20)
Kindergarten and first grade	42%	35%
Second through sixth grade	11%	40%
Seventh and eighth grade	31%	20%
Ninth grade and above	18%	5%

* Differences between groups are not significant.

delinquent group, as compared to 44 per cent of the control group. These differences are statistically significant.

The grade at which disturbed behavior was first complained of by teachers seemed to fall into two groups: kindergarten or first grade, and 7th or 8th grade. There was no difference between our delinquent and control group as to school age at which disturbed behavior was first noted. In contrast, Glueck and Glueck found disturbance first noted in later school grades (Table 4). The presence of early disturbance does not necessarily predict delinquency later, but apparently suggests the presence of psychological problems.

Glueck and Glueck found that of their delinquents 56 per cent were members of gangs. Of our police contact group there was no reported organized gang membership, and only two boys were associated with anything approximating gangs. Thirty-nine per cent committed the offense while alone, 51 per cent in the company of one or two other boys. Socially, both our groups were characterized as having few friends. Passive-follower and aggressive-bullying types, in relation to peers, were about equal in number. The density of population observation does not seem to apply to our police contact group, which did not derive from urban areas. In fact, it is interesting to note that a significantly higher proportion (60 per cent) of the police contact group came from suburban and rural areas, rather than cities, as compared with our control group. These proportions were reversed for our control group. We are at a loss to account for these differences in residence. In any case, the homes in all areas were physically better than the average and none was located in a clearly undesirable neighborhood.

When biographical data were reviewed, it was found that pre-natal and birth conditions were reported as normal in 90 per cent of the police contact group, and 75 per cent of the controls, another statistically significant difference. Although at enrollment the police contact group was considered physically healthy, it is interesting to note that 53 per cent had had a history of multiple illness, operations, or accidents classified as moderate to severe. Such was the case in only 33 per cent of the control group.

Early feeding problems were reportedly frequent in both groups, but the data do not reveal differences between the groups. There were no statistically significant differences in the age at which toilet training began, or in history of enuresis, although suggestively, toilet training began earlier in the police contact group.

A significantly lower proportion of the police contact subjects were youngest children as compared with the controls, but there were no significant group differences for the other ordinal positions. Because the size of our families was so much smaller (average 2.4 children) than those found among the lower income groups of Glueck and Glueck, appropriate comparisons could not be made.

It is of special interest to note that 27 per cent of the police contact group were adopted children, in contrast to 12 per cent of our control group, a significant difference. The incidence of adoption appears high in both groups. A mail survey we conducted of private residential schools for normal children showed that only about one per cent were adopted.

Regarding academic problems, 87 per

cent of the police contact group were found to have a history of learning problems including general difficulty in making acceptable grades, specific subject difficulties, and poor learning motivation. While academic difficulties were found in 54 per cent of the control group (themselves maladjusted), the differences are significant statistically. On the other hand, a very similar scholastic underachievement as measured by standard achievement tests was found: one or more years behind in reading (58.5—56.2 per cent), and one or more years behind in mathematics (66.7—66 per cent). It must be remembered that these learning problems cannot be ascribed to low intelligence.

A history of broken families (death, divorce, separation) was found in 44 per cent of the police contact group, and 39 per cent of the control group. Gross family instability (alcoholism, mental illness, marital conflict, etc.) was also reported in about the same proportion. It would seem that broken families and gross family instability are prominent factors in the genesis of mental conflict, regardless of its mode of expression. The percentages for broken families in both our groups are higher than the highest incidence of broken homes reported on recently by Gregory (6) for normal populations. On the other hand the percentage of broken homes in our police contact group is significantly lower than the 60 per cent found by Glueck and Glueck in their delinquent sample. Karpman (7, p. 338) has said, "Give us responsible, affectionate, and wise parents, and we may expect to find emotionally stable children." Few of our police contact group could be said to have come from closely-knit, pious, well-balanced families where love and authority were blended, although there was often outward appearance of family stability.

In both groups fathers were described as energetic, driving, and ambitious, in keeping with their occupational and economic status. However, there appear to be significant differences in the fathers' personalities. Among the police contact group, fathers were more often described as harsh (ill-tempered, severe, impatient, sarcastic, tyrannical), or as compulsive (perfectionistic, meticulous, rigid, moralistic). Very infrequently were they referred to as warm, reasonable and stable persons (Table 5).

TABLE 5

Fathers' Personalities

Traits	Police Contact Group†	Control Group†
Hostile, ill tempered, tyrannical, impatient, harsh, sarcastic, severe	37%	17%*
Aggressive, energetic, driving, ambitious	32%	30%
Perfectionistic, meticulous, compulsive, rigid, moralistic	39%	17%*
Inhibited, reserved	14%	10%
Self centered	12%	12%
Anxious, tense	12%	10%
Inadequate, weak	12%	20%
Warm, reasonable, stable	19%	40%*
Boisterous, coarse	2%	2%

* Differences between groups significant at $p = .05$ by t-test.

† Sums to more than 100 per cent because many fathers were described by more than one adjective group.

In their relationship with their sons, the fathers of the police contact group were, more often than fathers of the controls, indifferent and distant. Frequently they felt their sons did not meet their standards of achievement (Table 6). It is in this area of the father-son relationship that such factors as intelligence, adoption and academic and other failures appeared to be important determinants. While the boys were of normal intelligence, it is obvious they were inferior in this respect to their fathers. This was especially true for the adopted children, found with such surprising frequency in the police contact group. The adopted children had a mean I.Q. of 100.1, as compared with 109.8 for the natural children in the police contact group. This difference is statistically significant. Our records indicate pressure for achievement and grave disappointment on the part

TABLE 6

Fathers' Relationships to Sons

Type	Police Contact Group‡	Control‡
Warm	13%	44%*
Overprotective or indulgent	16%	17%
Alternating giving and punitive	12%	7%
Indifferent, distant	60%	36%†
Hostile, critical, rejecting	30%	17%
Son does not meet fathers' standards	37%	12%*

* Differences between groups significant at $p = .01$ by t-test.

† Difference between groups significant at $p = .07$ by t-test.

‡ Total is more than 100 per cent because many fathers were described as relating in more than one way.

TABLE 7

Mothers' Personalities

Traits	Police Contact Group†	Control†
Cold, formal, distant	17%	17%
Self centered	14%	15%
Social climber	6%	5%
Controlling, domineering	14%	22%
Hostile, impatient, ill tempered, critical	14%	10%
Meticulous, compulsive, rigid, moralistic	11%	22%
Warm, affectionate	11%	17%
Weak, indecisive, immature	26%	15%
Nervous, tense	8%	35%*
Reserved, restrained	11%	5%
Capable	3%	2%
"Driving"	6%	5%
Spontaneous, easy-going	6%	5%

* Difference between groups significant at $p = .01$ by t-test.

† Total is more than 100% because many mothers were described by more than one adjective group.

of these fathers in any type of failure. We have already noted the chronic academic failure of our police contact group, and the records show that with continued disappointments many of the fathers tended to react by becoming even more distant and withdrawn in their relations with their sons.

Regarding mothers' personalities, we noted only that mothers in our police contact group were less frequently described as nervous and tense, although in all other respects the mothers of both groups seemed to have similar personalities (Table 7). In relation to their sons, however, it was noted that the mothers of the police contact group were significantly less openly hostile, critical and punitive, and more often inconsistent in handling their sons. That is, they appeared to be alternately stern and lenient (Table 8).

TABLE 8

Mothers' Relationships to Their Sons

Type	Police Contact Group‡	Control‡
Warm, stable, accepting	11%	14%
Overindulgent	40%	32%
Overprotective and controlling	38%	37%
Hostile, critical, punitive, pressuring, rejecting	29%	46%†
Alternately stern, and lenient, inconsistent	22%	7%*
Cold, distant	13%	21%
Seductive	9%	9%
Son is played off, one parent against the other	13%	4%

* Differences between groups significant at $p = .01$ by t test.

† Differences between groups significant at $p = .05$ by t test.

‡ Total is more than 100 per cent because many mothers were described as relating in more than one way.

It may be noted that very few of the mothers in both groups were career women, and at least to outward appearance their chief activity was that of managing the home.

In both groups there was a high degree of hostility and jealousy toward siblings, so that in this investigation the presence of these feelings do not seem peculiar to delinquents, as has been suggested by some writers (7).

We did not find a single instance of reported parental over-protection in the case of a boy who had been arrested. While over half of the boys were boastful, arrogant, and unrepentant when arrested, their parents did not seem to encourge these at-

titudes. Forty-two per cent of the parents were sympathetic, objective, and began to seek help. Thirty-six per cent were bewildered and ashamed. Twelve per cent were lacking in insight, angry and rejecting. On the other hand, only a few (six per cent) parents felt themselves responsible for the boys' plight.

Psychiatric examination and projective psychological testing revealed serious mental conflict in both the police contact and control group. It was impossible to make statistical comparisons between the two groups on the basis of these data because of variations in the amount of psychometric material available. In the descriptive clinical material there was frequent reference, among the police contact boys, to severely distorted super egos. Also appearing frequently were such phrases as "confusion in sexual identity," "strong, unconscious sense of guilt," "deep passive dependent longings," and "deep feelings of inferiority." Such feelings as these were often defended against by attempts to appear masculine (note frequent use of automobile as a phallic symbol) and engaging in activities designed to prove independence, lack of dependent needs, and above all, of opposing authority.

It is possible that sexual problem cases should have been eliminated, because of possible differences in character and personality structure from other types of behavior problems. They were included because they fell within the criterion for selection, involvement with police or juvenile authorities. Actually these cases did not materially affect the reported observations.

DISCUSSION

At the outset, one should recognize the limitations of this type of investigation, which are related to the reliability of clinical procedures, problems of recording of information into clinical files and the difficulties of abstracting clinical records. Limited and cautious interpretations are certainly indicated.

Another question which might be raised concerns the possible selectivity in Devereux Schools' admissions policy, affecting the kinds of cases available for study. To some degree this was controlled by scrutinizing all requests for admission before and after our intake selection. We discovered there was no category of behavior or diagnostic group which was systematically excluded from admission. The rationale of selection or of denial of admission was equally related to the current enrollment balance and to available space. It is likely that our population includes children who have committed every type of offense which juvenile authorities would refer for special residential treatment. It is also likely there are upper income adolescents who commit offenses which lead juvenile authorities to insist upon commitment to penal or corrective institutions. We have no specific knowledge of the nature of such cases, and whether they differ in any significant way from our sample.

Having noted these issues, what do our results suggest? Dealing first with the issue of socioeconomic level, we note there were comparatively few differences in the nature of offenses committed. With two exceptions, burglary and auto theft, delinquency seems to be delinquency, irrespective of slums or suburbs, material advantages or underprivilege, gangs or no. From the psychiatric viewpoint, frequency of brain injury, psychosis and overt neurotic symptoms are low. Specifically, overt anxiety is not characteristic of offenders from either upper or lower income groups. In both groups there tends to be a long history of delinquency, although there is the suggestion that behavior problems at school may appear sooner in the upper income groups. In summarizing their findings, Glueck and Glueck make statements to the effect that families of delinquents are more often indifferent or frankly hostile to the boys, and that the

boys do not look upon their fathers as acceptable symbols for emulation. Mothers, on the other hand are described as being lax, warm and even overprotective. The description of the family constellation, though perhaps more openly disorganized and asocial in the lower socioeconomic groups, bears many similarities to the description of the families of our sample. It seems reasonable to hypothesize that the psychological factors making for delinquency may in fact be similar irrespective of income level, the physical adequacy of the home, or the general social and economic competence of the parents.

Several significant findings have been recorded in regard to the antisocial behavior of adolescents from upper income families. While unconscious psychodynamics varied, the behavior was always characterized by impulsive acts, without personal gain, seemingly stupid and senseless in their purpose and commission. In view of the nature of the acts, the long history of friction with authority, generalized both to home and school, suggests that the common quality specific to these children is a negation of rules. Since in so many instances the history of disturbed behavior may be traced to an early age, it seems reasonable to suspect that the significant relationships wherein behavioral rules are generally conveyed to the child within the home may have gone awry, and interfered with the proper later identification with authority at school and in the community.

When the family constellation is considered, we find that inconsistent behavior on the part of the mother appears frequently. This would support the observations of Friedlander (4), who has stressed the factor of inconsistency on the mother's part during early development as being decisive in the formation of anti-social character. Friedlander feels that too much gratification alternating with too severe frustration of the child's instinctual urges is a key factor in delinquent development. Aichorn (1) has also described a similar quality of indulgence and inconsistency in the mothers of his cases, and Bieri and Lobeck (2), using psychological test methods, have noted that individuals who characteristically reject authority feel an ambivalent closeness to mother.

Overindulgence and overprotection on the part of the mother was found equally in our police contact and control groups. This suggests that the familial recipe for delinquency requires another ingredient. Such an ingredient is strikingly suggested in the reported attitudes of the fathers and in their relationship with their sons. The father in personality and relationship seems distant from his son. The father may not have been considered delinquent or even neurotic, but his hostile, aggressive temperament, perfectionistic expectations for the boy, excessive disappointment in the boy, and his inability or perhaps disinclination to spend time with the boy, all appear to have contributed to a barrier in this relationship.

It has already been indicated how in many cases the fact of adoption, the fathers' superior intelligence as well as the boys' academic and other failures, may have abetted and fed into a pattern of mutual withdrawal of father from son, and son from father. With continued disappointments, many of the fathers reacted by becoming even more distant and withdrawn. An added blow to their self esteem may well have arisen when, successful in other areas, they were unable to conceive children, and in consequence adopted. A successful, energetic and superior father is difficult enough to emulate, without the added burden of distance and lack of emotional support. The boy's response may become one of moving away and negating what the father stands for. It can readily be seen how problems in identification arise.

That this relationship with father is crucial finds support in the work of Nye (9) who concludes that the nature of the child's

perception of the father is more often related to delinquency rate than is the child's perception of the mother. The findings of Bieri and Lobeck (2) substantially confirm this observation. Individuals who reject authority characteristically feel that the father is emotionally distant, that there is insufficient contact with the father, and that the father is stronger than they are. These individuals are less conforming to the father's wishes and do not accept the father in the authority role. From his clinical work, many years ago, Aichorn also described the fathers of his delinquents as harsh and punitive.

One can speculate as to how the high frequency of multiple accidents, operations and illnesses, occurring in over half of our cases, contributed to the history of delinquency. Castration fears already stimulated by the harsh, aggressive, competent, competitive, and distant fathers, may have been accentuated by these accidents and illnesses, which at the same time forced the boy to return to an ambivalent relationship with his overindulgent, overprotective, and inconsistent mother. Having survived these accidents and illnesses, serious physical threats to his well being, a feeling of omnipotence and a feeling that "I cannot be permanently harmed" may have arisen, which in turn would support an omnipotent defense against castration anxiety. Feelings of omnipotence are clearly noted, not only in the denial of reality implicit in the short-sighted offenses which were doomed to fail, but also in the reactions of the boys after being caught, wherein there was little conscious anxiety or guilt.

The common idea that delinquents from upper income families are typically spoiled and free from prosecution when they commit an offense has been shown to be incorrect. Similarly although broken homes and gross family instability are shown to be important in the genesis of mental conflict, they do not appear as specific factors in delinquency. Further, the delinquencies in this group do not differ in nature from those of lower economic groups, despite the dramatic difference in physical surroundings.

The evidence also points up the fact that if misbehavior and rule-breaking (lying, stealing, rebelliousness, destructiveness, etc.) is an expected aspect of development including adolescence, the children described in this study differ from this norm. "Normals" can be differentiated by their ability to experience guilt toward those whom they have offended, to profit from discipline, to learn to heed warnings, to come to weigh consequences, and to postpone pleasure. This is in sharp contrast with the chronic history of disturbed behavior at home and at school, beginning *before* adolescence, that has been noted in our group.

It is suggested that the observations reported in this paper can be of diagnostic aid in distinguishing those in need of help in a controlled psychotherapeutically oriented environment. It is of importance that juvenile authorities have facilities for thorough study of each offender and his family before proper disposition can be made. We are not suggesting that environmental factors do not contribute to the development of anti-social behavior. However, it is our opinion that there is a delinquency potential caused by psychological trauma and intra-psychic conflict; that these arise during the course of individual development in reaction to intra-family experiences rather than socio-economic sources; and that the potential delinquent can in many instances be detected before adolescence if parents and educators are sufficiently alerted.

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PSYCHOTHERAPY WITH ALCOHOLICS

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Alcoholics are addicts who require alcohol or its effects to satisfy certain primitive and deep longings. These longings are not dependent on the chemical nature of the alcohol but rather on the psychological structure of the patient. The pre-morbid personality of the patient then becomes the decisive factor in attempting to follow the effects of the addictive process. Fenichel (1), in *The Psychoanalytic Theory of the Neuroses*, discusses addicts from the psychoanalytic point of view. He notes that it is the possibility of fulfilling pleasurable wishes stemming from an extremely early level of fixation that permits the more advanced genital organization to be left behind and a marked regression to take place. The various fixation points in the individual's development determine which aspect of the infantile sexual organization is going to come to the fore, but most assuredly it will be of a predominantly pre-genital variety. Addicts who under the stress of the addiction flee from object relations have never had too firmly established their investment in others and thus return to the more primitive, self-absorbed, state. The objects become important only as they supply satisfactions and these satisfactions are now viewed regressively as being attributes of the oral zone. Tensions, frustrations, waiting for gratification, all become increasingly difficult, and the need is to be satisfied quickly and effectively. Interests in reality become secondary and the need to be orally gratified becomes paramount. Fenichel feels the the alcoholics are characterized by their narcissistic and oral premorbid personalities as well as a latent homosexual component. Lorand (5), in a "Survey of Psychoanalytic Literature on Problems of Alcoholism," published in the Yearbook of Psychoanalysis 1945, reiterates the contribution of strong homosexual and oral cravings as constituting part of the basic problem of alcoholism.

Rado (6), in his paper on "The Psychoanalysis of Pharmacothymia," 1933, notes that there are certain drugs called "elatants," which a person in psychic stress can utilize to influence his emotional life. These have two main effects, in that they allay and prevent pain, and stimulate or generate pleasure. The pharmacothymic patient, which include the alcoholic, wishes an agent to give him the pleasure effect. Rado feels that people resorting to elatants respond to frustrations with a special type of emotional alteration which he designates as a "tense depression." This "initial depression" is marked by great painful tension and at the same time, a high degree of intolerance to pain. The role of this initial depression is to sensitize the patient for the pharmacogenic pleasure effect. Once the drug is taken in this state, the pharmacogenic pleasure effect, which is in proportion to his longing for relief, is experienced. This pleasure effect is characterized by the elevation of mood and a sharp rise in self regard—the change in mood can be called an elation. In the evolution of a pharmacothymia, Rado feels it essential that elation should develop.

Simmel (7), in his paper on "Alcoholism and Addiction," differentiates four classes of chronic drinkers: the social drinker, the reactive drinker, the neurotic drinker and the alcoholic addict. In the first two groups alcohol defends the ego against the mental impact of external circumstances; in the last two groups it defends the ego against the threat of inner unconscious conflicts.

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The struggle that the alcoholic has with himself or his environment in combating or indulging in the forbidden enjoyment of drinking is very reminiscent of his original struggle with masturbatory impulses. Some alcoholics keep records of the number of drinks, in a frantic but usually unsuccessful attempt to reduce the number of times they indulge. Frequently the parents or mates are lied to; attempts are made to hide the bottle, this frequently in the bathroom—these events often representing a repetition of the efforts to hide the masturbatory enjoyments from the interference of a parent.

Simmel feels that neurotic alcoholism is a mixture of a compulsion neurosis and a perversion. With the perversion the alcoholic has in common the achievement of being able to gratify infantile sexual demands by excluding the danger of castration. Since, however, the symptomatic drinking can be looked upon as a degenitalized masturbatory substitute, it is much closer to a compulsion neurosis in which the symptom, drinking, at the same time is a substitute for and a defense against infantile masturbation.

If the defense of degenitalization continues, Simmel believes, the neurotic alcoholic becomes an alcohol addict, for the defense of degenitalization is a mechanism of infantile regression to pre-genital stages of ego development.

Simmel feels that the most important trauma at the root of every addiction revolves around the mother. It is for her that the addict longs and yet she provides him with no security whatsoever. They are mothers who indulge themselves without consideration for the child's needs. Such mothers may overindulge the child during the process of nursing and then become tyrannically strict about toilet training and cleanliness. In the histories of the patients seen in our clinic, there seemed to be great preoccupation and indulgence with their oral demands. These were satisfied and doted upon. However, during the phallic phase, masturbation and genital activity was frowned upon and severely punished. This added to the ease with which regression took place to the earlier, more satisfying, oral level.

The parents of most alcoholics Simmel studied, father or mother or both, were usually emotionally immature and unstable persons. They sometimes prohibit, at other times encourage, the same instinctual gratifications. They sometimes combine attitudes of manifest seductiveness toward their children with an overpuritanical education in sexual matters. Such parents, directly or indirectly, attempt to derive sexual gratification from their children, but if the child responds by showing signs of sexual excitement or reacts to stimulation by masturbating, the parents will punish it severely. This behavior is very similar to that of the parents of the sexually delinquent children described by Adelaide Johnson (4). She and her coworkers ascertained that the children in their delinquent sexual behavior were acting out the unconscious impulses of their parents.

Knight (2, 3), in attempting to delineate the parental background of alcoholics, notes several factors which seem germane. There is inconsistency and lack of unanimity of parental discipline, resulting in conflicting and unstable identifications in the son. One parent, usually the mother, has always been overprotective and overindulgent, shielding the son from the father's severity. The father has usually been inconsistently severe and indulgent, with considerable lack of real affection expressed and many clashes with the mother over discipline of the son. One regular result of such parental exposure seems to be a fostering of excessive passive demands and expectations in the son—such passive, childish, feminine wishes being in marked conflict with the masculine strivings inculcated by the father and by the cultural ideology absorbed from schooling and from contacts with other males. The excessive

drinking then attempts to supply a compromise to this conflict—it affords implicit gratification of passive oral wishes, and at the same time, through the distorted standards of masculinity of late adolescence, provides the illusion of being masculine through the attempt to be the hard drinking he-man.

Attempts at psychotherapy of the alcoholic will be considered from the background of knowledge available concerning the psychic structure of these individuals.

If, following Simmel's classification, we find ourselves confronted with patients who belong to either the social or reactive groups, those whose conflicts are directed against the impact of external rather than internal reality, the task then becomes an educative and perhaps a manipulative one. An attempt is made to make the patient aware of his impulses which are being so strongly defended against, to make him aware that the affects connected with these impulses are perfectly permissible, that all feelings and thoughts are acceptable—but, and this is a big but—there is a difference between being aware of a feeling and thought and doing something about it. It can be pointed out that in childhood the distinction between thoughts, feelings and actions are never clearly drawn. Thus the child, still under the sway of the pleasure principle seeks immediate discharge and gratification and so blurs the distinction between the feeling and the action. The patient at the present, still regards these feelings and actions as being one, and thus has the need to equate and thus repudiate both the feelings and the actions.

An attempt is thus made to decrease the harshness of the superego and also to diminish the fear of the impulses. The reality principle is further strengthened by clarifying the difference between feeling, thought and action, and by encouraging the patient to interpose what Freud referred to as "trial action" thinking, between the impulse and the discharge of the impulse.

The therapist assumes a steady, consistent position, not unlike that of a teacher —this role which is permissive insofar as instincts are concerned but firm and unwavering insofar as actions are concerned, now serves the patient as a new model for the inconsistent, corruptible parental imagoes that we have seen were noted so often in patients subject to alcoholism.

On the basis of the positive feelings engendered by the therapist, the decrease in superego pressure and the reduction of fears concerning the instinctual desires, the increased emphasis upon the reality principle and the essentially re-educative process is dealt with upon a rather manifestly superficial level. This group of patients, the social and reactive drinkers, can frequently be influenced and helped.

Unfortunately however, this type of patient is not too frequently seen in a clinic or treatment room—those who seek or those who are forced to seek help belong to either the neurotic or addict type of drinker. Thus we can see that the therapy now assumes much greater proportions and difficulties because we are now dealing with an intrapsychic conflict with all the ramifications and complexities germane to neurotic or psychotic illness.

Certain features of similarity obtain, however, insofar as the initial approach is concerned. Essentially the same features enumerated in the educational approach will also be operative here. The therapist again would want to use the relationship to point out certain things to the patient; the difference between the therapist and the parental imagoes, the need to make the superego less restrictive, the need also to make the patient less fearful of his impulses, the emphasis upon shifting from the pleasure to the reality principle with an increase in the interposition of "trial action" thinking between impulse and action.

In the State University Alcohol Clinic individual therapy is conducted by two main groups, psychiatric residents in either the second or third year of their training

and social work students who are either in their first or second year of training. The cases for the residents are selected by the staff psychiatrists of the clinic with recommendation for treatment depending on multiple factors. First, the acuteness of the need. This is related to the level or intensity of anxiety, depression, or other symptomatic manifestation of conflict. Frequently it is felt that the patient is on the verge of an overt psychotic episode, or it is felt that defenses are breaking down so rapidly that immediate intervention is necessary. Other cases are selected because the patient expresses an interest or desire to know more about his motivation for drinking, and demonstrates a combination of curiosity about himself and an intellectual potential that seems to make an attempt at psychotherapy worthwhile. This second group is seen by the residents but much more frequently is chosen by the social work supervisors for work with the social work students. Practically all patients seen are on some medication program at the inception of the psychotherapy. The psychotherapy is almost exclusively on a once-a-week basis. The medication is supplied by a physician, other than the therapist, and the therapist, once the case is taken over, has the prerogative to discontinue medication as he sees fit.

In working with the residents, the practice is to have the resident present his case as soon as possible, this usually after one or two sessions. At this time, a tentative appraisal of the diagnosis and especially the dynamics are attempted and the areas for initial focus are delineated. At this initial presentation any particular personal attitudes which might threaten treatment initially are pointed out. Subsequent presentations are made in the group setting which involves 5–6 residents in addition to the supervisor. The social work students present their cases in a group setting which also includes their own social work supervisor.

In attempting to review the therapeutic situation, a number of observations seem worth noting. Most of the patients starting in therapy, especially the group seen by the residents, initially present symptoms of rather marked anxiety. It is frequently noted that the anxiety represents a warning signal behind which lies a great deal of rage. It is the rage and anger, in attempting to break through, that appears to bring out the manifest anxiety. It has been useful first to focus on the anxiety as representing the manifestation of the fear of the aggressive impulses. Once the patients are made aware of the fear of their own aggressive impulses, and this fear focused on some aspect of the contemporary conflictual situation and relationship, the next step is to point out the difference between the feeling and the action. In effect, the feeling is made to appear permissible, and the action looked upon as different and not to be viewed in the same way. In this supportive, reality-oriented way, the patient is introduced to therapy. The introduction is often brought to the patient's awareness as the initial history is elicited.

Although in this instance aggressive features are focused upon for discussion (and these are by far the most frequently observed), other aspects may also be approached. In some cases hostility may be in the foreground; beyond this may be the anxiety, and the force stimulating the anxiety is a feeling of helplessness. In our experience it is important to make the patient aware, at this early stage of therapy, of some of his fears and to proceed to help the patient view these in a more realistic light. This stratagem has a number of aspects of extreme importance. First, the transference relationship is immediately strengthened and made positive—a prime requisite for the psychotherapy of alcoholics. Also, these confrontations have a certain magical quality, in the eyes of the patient, with which the therapist is initially endowed.

The initial reaction of the alcoholic patient is particularly important, both because of his rather primitive fixation in the early oral period, and also his tremendous acting-out potential. The patient's great difficulty is in holding back, in waiting and sustaining tension.

By giving the alcoholic patient something initially, one can exploit his wish to be given and fed, and this can permit him to project some of his omnipotent wishes onto the therapist. At this point the therapeutic struggle begins. The therapist is looked upon to satisfy insatiable demands. This of course is related to the early period in childhood when the patient's marked oral demands were initially fulfilled and then later frustrated. At this point the patient often responds, as he did in childhood, with rage, which as in childhood is frequently repressed. In its place the patient experiences a feeling that somehow he's no good —he doesn't deserve anything and he should be punished. At this point, provocative behavior designed to get the therapist angry (and thus assuage the patient's guilt) often occurs. It is here that many of the failures in treatment take place. It is, accordingly, especially important that therapists realize that alcoholics often have this strong wish to be punished, and are very skillful in stimulating the therapist's aggressive and sadistic wishes. This masochistic tendency was pointed out by Rado and Knight. What makes this difficult to deal with therapeutically is the tremendous secondary gain involved. It is in order to feel sick and helpless that alcoholics frequently get started on some of their binges. This has one meaning of teaching their parents (or at this time their friends or mates) a lesson, but on a deeper level the behavior is consistent with their real wish to be taken care of and in a sense loved. The interposed condition is their state of helplessness. This is once again the attempt to gain the love they felt they missed in childhood because of the inordinate strength of their wishes and because of the inconsistent attitude of their parents.

At this juncture the therapist remains consistent and fair but points out that the patient seems to want to be punished, and that perhaps this is because of some of his confusion about the difference between his feelings and actions. The essential difference is continually emphasized. It has the effect of increasing the patient's reliance on the reality principle, of cutting down on the tendency to discharge in actions and encouraging the patient to think and talk rather than to do—the superego is made less punitive by permitting it to accept the idea of the impulses and separating the idea and feeling from the action. The effect of this is markedly to increase the positive transference and also to strengthen the ego somewhat.

The problem that then comes into the foreground revolves around the transference relationship. The attempt has been made to make this positive by initially endowing the therapist with certain magical qualities based upon his understanding of certain anxieties brought early into treatment. Then the therapist consciously attempts to play the role of the consistent parent, sharply differentiated from the inconsistent one the patient regarded as so frustrating. The next step involves pointing out to the patient that he seems to be endowing the therapist with certain qualities that derive from his own past, in relation to his expectations and feelings in regard to earlier objects. (In reality, however, the therapist's role is simply to help the patient understand his difficulties.) Some of the omnipotent thoughts regarding the therapist are exposed, and from this point on therapy is conducted along standard psychotherapeutic lines. Emphasis is placed on current difficulties, and upon exposing some of the patient's defensive maneuvers. Any negative transference feelings are quickly dealt with, and closer attention is constantly focused upon the patient's cur-

rent relationships. The transference situation is encouraged to move into the background although it as always supplies the motive force for the therapeutic process.

A clinical illustration of this type of approach to a case may prove helpful at this point. The patient is a forty-five year old man, an instructor at a local college. He sought treatment at the clinic in May of this year because he felt his drinking was getting out of hand and because he feared that it would begin to influence his working efficiency, although at this time it had not impaired notably his efforts. More upsetting however, was the feeling of tenseness that was becoming more and more incapacitating and frightening. For the past four or five months he had been feeling rather depressed and lonely.

He had been drinking for about twelve years but it was only recently that he felt he was becoming a problem drinker. He traced the cause of his heavier drinking to a time about three years ago when he was separated from his second wife. Since that time he has lived by himself in a small apartment. He has tried to absorb himself with his work and to become involved in related activities but has found that the work doesn't fill his time and he feels very lonely.

Since separating from his second wife he has made two attempts at forming relationships with other women: both these relationships were transitory and unsatisfactory.

The patient still sees his second wife when he goes to pick up his daughter, now six years of age, for a weekly visit. He met his second wife in 1943 when he was in the army. He was at that time stationed at a university. He had entered the army several months earlier, only five months after the death in childbirth of his first wife. His daughter, the only child of that marriage, is now fifteen. He had kept the infant with him, with the help of a nurse, until he received notice of induction into the army. Then he sent the child to his wife's sister, with whom the child has lived ever since. The patient states that he had some plans for having the child live with him when he remarried but this plan had not worked out for the following reasons. First, his second wife had become pregnant almost immediately after they were married and their marital situation had gone rapidly downhill. He felt their home was not the environment in which a young girl should be raised. Second, there was reported to be an intense mutual feeling of dislike between his wife and daughter. He had known his second wife almost ten years prior to their marriage in 1952.

With the onset of the second wife's pregnancy, she lost all sexual interest in the patient, and they had no intercourse from the time she was about two months pregnant until six months after the delivery of the child. She was completely involved in taking care of the infant to the extent that she was unable to care for the house, in terms of doing shopping, preparing meals or keeping things clean. He felt neglected and was particularly upset by her attitude regarding sexual relations. The patient began to drink rather heavily at this time and his wife blamed his drinking for the difficulties of the marriage. This went on for a year which he described as a kind of "living hell." He then decided to stop drinking in order to prove that his drinking was not the cause of their difficulties. He did not drink for the next two years. In spite of the fact that the patient stopped drinking, the marriage did not improve and after approximately four years a separation was made.

The patient stated initially that he did not really resent his wife but rather felt sorry for her, recognizing her to be emotionally ill. He notes that she had repeatedly sought psychiatric treatment in the past four or five years but he felt that it had not really helped her until recently.

Other seemingly pertinent data that emerged early in treatment are as follows. The patient is an only child whose mother

died either during childbirth or shortly thereafter. His father remarried when the patient was approximately two years of age. The patient has two siblings, both girls, several years older than himself. His father is described as an aggressive, dominating man who asked much of his family but gave little in return. The stepmother is remembered as an extremely religious woman who became increasingly fanatical about religion and died in a mental hospital when the patient was in his early teens. For a time he considered studying for the ministry but gave up this ambition as he became more aware of his stepmother's progressive mental illness.

The patient's early memories of his stepmother always cast her in a confusing role. On the one hand he seems to remember her exposing herself rather frequently in his presence, yet he also remembers her stern admonishments about the sinfulness of sex.

The initial material suggested that one source of the patient's anxiety was related to markedly aggressive feelings toward his wife, which he was unable to cope with. It was suggested that his fear about his hostile feelings toward his present wife be explored. It was also noted that since the first wife died in childbirth and that his own mother had died shortly after his own birth, the area involving birth, babies and sexual relations would be expected to be anxiety-laden. It was also felt that the increase in his drinking, bringing him into close association with men in bars, might be contributing to this anxiety by increasing the intensity of some of his homosexual impulses.

The patient soon acknowledged feelings of resentment toward his present wife and very shortly thereafter some feelings of resentment toward his first wife and stepmother also emerged. The therapist followed up the exposure of feelings of hatred and anger toward these women by pointing out how frightening it is to the child to be aware of his anger and how the child confuses his fears and wishes, his inner life with reality. This might seem especially so with the patient because his stepmother had died in a mental hospital and his first wife in childbirth. These factual events probably gave credence to his fears about the destructiveness of his thoughts and feelings and made it especially necessary for him to defend himself from any awareness of these thoughts.

The patient's initial anxiety subsided, and the area of focus shifted to his work. It soon became apparent that the patient was subtly provoking the head of his department. Each time he took on responsibilities commensurate with his aptitude, he somehow failed. This tendency to provoke in order to be punished, so as to assuage feelings of guilt, soon became apparent to the patient. This then produced more material about the patient's early relationship with his father.

As these data were being elicited the patient began to think more urgently in terms of reconciling with his wife or attempting to establish another relationship. He also seemed once again to appear more tense at the therapeutic sessions. The relationship with the therapist as reflecting previous attitudes towards figures in the past, especially towards his father, was then pursued, and the anxiety stemming from the arousal of too intense positive feelings towards the therapist tended to subside.

The patient at present is involved in conflict concerning his heterosexual desires. This need is fraught with intense danger because of the fear, understandable in terms of his history, that somehow he will injure or destroy the sexual partner. On the other hand, he fears that if he avoids women he would not be acting like a man, and this precipitates concern about his passive longings.

The patient gave up his drinking when therapy began, although more recently there has been a tendency to drink sporadically. This drinking has not been a problem thus far in treatment.

Our experience, especially with the resident group at this clinic, has thus far indicated that this particular approach to psychotherapy, exploiting some of the psychoanalytic understanding of alcoholism, has proven extremely promising. Approximately 60 per cent of the patients have remained in therapy and seemingly have derived benefit from it. The psychotherapy appears to serve the function of strengthening the patient's ego—the drinking itself has thus far rarely presented a major problem in the therapy. Occasionally therapeutic sessions are missed, but on the whole the patients seem to be helped in their struggle against the urge to drink, an urge which they describe as being similar to earlier masturbatory struggles.

To reiterate, the main therapeutic modification utilized in inducing rapid positive transference is not essentially different from the seductive approach used in treating children. By pointing out aggressive wishes early in treatment (and this is pointed out as the fear rather than the wish), the therapist attains the role—actively reinforced—of an omnipotent figure. Since the fixation of these patients is at an early oral level, replete with excessive demands that are doomed to frustration (and hence bringing forth marked feelings of rage), and since regression in alcoholic addiction goes back to this early oral period; our interpretation and confrontation of the patient with his wishes, verbalized to him as fears, will most often be valid. Once the patient becomes emotionally involved, the therapist remains the omnipotent but consistent figure, and points out the difference between feelings and actions—encouraging the feelings and separating them from the actions. This helps the patient to become more tolerant of his impulses, relieves some of the superego pressure, and in effect reinforces the reality principle at the expense of the pleasure principle. In the next stage the patient's masochistic response moves into the foreground; his need to be punished and his wish to utilize helplessness and weakness as a means of gratification is seen. Frequently this need is directly related to the guilt aroused by his aggressive and greedy demands and the rage at their frustration—the feeling that somehow he should suffer and be unhappy. The utilization by such patients of this feeling is an attempt to deal with the environment, and stems rather directly from the guilt about the initial rage. Also commonly seen is an overtly provocative attitude, designed to force others to direct anger toward them. This behavior is intended to justify their own feelings of anger by forcing others to be angry with them, and clearly has the function of reducing guilt. Here, of course, the therapist must be especially careful not to respond to the provocation, but instead to point out the patient's desire to be punished. This interpretation must be made again and again. Here, too, the transference which is markedly positive must be interpreted, as reflecting attitudes from the past—this is necessary to deflate some of the omnipotent attitudes with which the therapist is now endowed. The therapist then attempts to act consciously as a consistent parental figure, firm and consistent as distinct from the parents most alcoholic patients have had. Therapy then continues along a traditional psychotherapeutic course; interpreting transference when negative, focusing upon current relationships and problems.

Many problems are uncovered by this approach to therapy and few are completely resolved. But the area of psychotherapeutic experience with alcoholics is increasing and this is a most salutory aspect of the work.

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SENSORY ISOLATION: HALLUCINOGENIC EFFECTS OF A BRIEF PROCEDURE

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Studies of sensory isolation by the McGill group (1, 4) indicate that progressive intellectual deterioration and vivid visual hallucinations result from exposure to a monotonous environment for periods ranging from several hours to six days. Comparable results have been reported by Lilly (5) when subjects were immersed in a tank of water for two to three hours. Wexler, Mendelson, Leiderman and Solomon (9) obtained similar findings with poliomyelitis patients and experimental subjects restricted for eight hours to a tank-type respirator. These investigators conclude from their review of the literature (7) that personality disorganization may be produced by sensory isolation, with the severity of the symptoms related to the length and extent of the deprivation conditions.

The present study was designed to develop a brief isolation procedure for more convenient exploration of susceptibility to hallucinatory behavior and the variables contributing to this process. It differs from previous investigations in that: 1) the duration of isolation was limited to one hour; 2) the suggestion was given that unusual perceptual experiences were appropriate in this situation; 3) schizophrenic patients were studied, as well as nonpsychotic patients and normals; and 4) the relative effectiveness of total versus partial visual deprivation was investigated by using both frosted and black goggles.

It was anticipated that hallucinogenic effects might be obtained within one hour by the use of suggestion. It was also expected that such effects would be maximized by the more diffuse perceptual environment (frosted goggles) and in the more pathological subjects.

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METHOD

Subjects: Four normal, one neurotic, two sociopathic and three schizophrenic subjects were tested in the isolation procedure.[2] The four normal subjects were staff members of the Lafayette Clinic, including a recreation leader, a graduate student in sociology, a psychiatric resident, and a school teacher.

Isolation Conditions: All subjects were confined individually for one hour in an isolation room. The room was located in a little-used corridor, but did not eliminate occasional muffled sounds from the hospital environment. Auditory input was minimized by fitting each subject with sealed wax ear plugs and padded ear phones which fed back the amplified sound of an electric fan as a constant masking noise. To reduce tactual stimulation, each subject's fingers were wrapped in cotton and elastic bandage, over which he wore elbow-length mittens. Visual stimulation was restricted by the use of rubber goggles. Four subjects wore blackened-out goggles totally restricting visual stimulation, while the other six subjects wore either white or red frosted goggles which permitted only diffuse light perception.

Instructions and Procedure: All subjects were seated in a comfortable arm chair, fitted with the isolation gear, and then instructed as follows:

"This is a study of the effects of reduced stimulation upon sensory receptivity. We

[2] A complete description of the sex, age, and diagnoses of the subjects appears in the first four columns of Table 2.

have found that people who remain in a situation, where there is little to see, hear, taste, smell, or feel, find themselves able to recognize sensations which are ordinarily below the level of conscious awareness. Now, we're cutting down your sensory inputs by the use of these ear plugs, goggles, and gloves. We want you to get comfortable here and completely relaxed, so that your senses can adjust to the state of lowered stimulation. When you feel comfortable, we want you to remain seated, move as little as possible, and try to keep your eyes open.

"For the first few minutes, your senses will be adjusting to the new environment. Just relax and let your thoughts freely wander. After awhile, you'll begin to notice visual sensations, sounds, smells, tastes, or feelings which are different from those you recognize now. As you begin to become aware of these sensations or experiences, we want you to tell us all about them in detail. Describe them as they happen. We will be observing you in the next room for a period of one hour. We want you to talk freely during the hour. Tell just how you feel, want you think about, and everything you notice. Are you comfortable now?"

To evaluate intellectual efficiency before and after the isolation, subjects were tested for the number of word associations they could produce in two minutes. Subjects were instructed: "Now, I want to see how many words you can name in two minutes. Any words will do, like clouds, dog, chair, happy. When I say ready, you begin and say the words as fast as you can."

Continuous observations of the subject's behavior were made during the experimental hour through a one-way screen. Tape recordings of all spontaneous comments were obtained through ceiling microphones. All subjects were carefully interviewed at the end of the isolation period to evaluate the nature of the sensory experiences reported. All gross bodily movements made during the hour were recorded and served as the basis for a rating of each subject's level of activity. In addition, the subject's verbalizations during and after the hour provided a basis for judgments of his level of emotionality.

RESULTS AND DISCUSSION

Sensory and Hallucinatory Effects: The most striking finding of the present study was that the subjects reported hallucinatory experiences which were quite different from those obtained with more prolonged isolation. In the McGill experiments, as in mescaline and LSD intoxication, subjects reported complex pictorial images which surprised and amused them, "like cartoons." In contrast, most of the present subjects *denied having any unusual sensory experiences*, yet frequently did report perceptions not corresponding to reality. These perceptions were different from those reported by the McGill subjects in that they were less vivid, more commonplace in content, and were often associated with a false belief in the reality of the experience. Goldberger and Holt (2) have made similar observations of differences in the imagery reported by their subjects and those obtained by the McGill group.

In order to clarify the distinction between these two types of hallucinations, a system was devised for classifying sensory experiences based on verbal reports. Within this schema, every report of a sensory experience was rated from 1 to 5 in each of three categories: 1) in terms of its clarity; 2) in terms of the objective basis of the sensory event; and 3) in terms of the subject's acceptance of the reality of the event. The combination of these three ratings served to classify the sensory report.[3] Table 1 presents the rating scale with typical classifications.

[3] Goldberger and Holt (2) prefer to restrict the term "hallucination" only to those instances in which the subject experiences "impressive" imagery and also fails in his reality testing. The broader conceptualization of hallucinatory reactions employed in the present study recognizes the inherent continuities among illusory, hypnagogic, and hallucinatory processes. The proposed classification

TABLE 1

*Rating Scale for Classifying Sensory and Hallucinatory Reports**

Rating	Clarity to Subject	Objective Reality	Subjective Reality
5	Very clear	Veridical perception	Firmly convinced
4	Partially vague	Slight distortion of actual event	Slight doubt
3	Muffled or hazy	Indeterminate	Undecided
2	Barely specifiable event	Severe distortion of actual event	Quite doubtful
1	Unspecifiable event	Hallucinatory perception	Regards event as hallucinatory

* Typical Classification: 555 = clear veridical perception; 511 = clear hallucinatory experience, so regarded by subject and observer; 515 = clear hallucinatory experience coupled with a delusional belief in the reality of the experience.

. The sensory and hallucinatory reactions presented in Table 2 have been classified on this basis. Perceptual phenomena receiving ratings in the second category of 5, 4, or 3 have been classified as sensory reactions; while unreal experiences rated 2 or 1 in the second category have been classified as hallucinatory reactions. The type of visual restriction employed with each subject is also shown in the first column of Table 2; R indicating that the subjects wore red frosted goggles, B for black goggles, and W for white goggles.

Examination of the sensory reactions in Table 2 reveals that all four normal subjects exhibited increased sensitivity to the stimuli in the isolation room (555 reactions), but reported relatively few hallucinatory experiences. Subjects 1 and 3 reported kinesthetic (511) reactions. The other hallucinations reported by the normal subjects were mostly unclear ideas of reference (313 reactions) to the effect that they could hear talking in the control room.

Table 2 also shows that the anxiety neurotic, Subject 5, was very sensitive to residual stimuli, but reported no hallucinations. On the other hand, the two sociopathic patients projected the content of their conflicts in the form of more typical clinical hallucinations (515 reactions); *e.g.*, the exhibitionistic patient, Subject 7, heard a camera taking pictures of him and felt air blowing on his body. Similarly, the schizophrenic patients reported typical clinical hallucinations, the content and frequency of the experiences corresponding to the clinical condition of the patient. These experiences were, however, no more frequent than was ordinarily anticipated for the schizophrenic patients in non-isolation settings.

The content of the perceptual reactions produced in the one-hour procedure appeared to reflect dominant needs and habit systems of individual subjects. Thus, a normal female (Subject 3), known to have been concerned with obesity, felt her limbs swelling and becoming heavy; an adolescent patient (Subject 6) with known religious preoccupations reported hearing church bells ringing. The neurotic patient (Subject 5), had been clinically evaluated as suffering from repressed hostility. He produced no hallucinatory reactions but reported feeling tight, uncomfortable and intensely angry.

A comparison of the effects of frosted versus black goggles shows that visual sensory reactions occurred in five of the six subjects wearing frosted goggles, and in only one of the four subjects wearing black goggles. While partial visual deprivation appears to have had a greater effect on visual sensitivity, neither condition produced visual hallucinations. There also were no indications that the amount of visual

system makes it possible to identify each of these various kinds of perceptual reactions in terms of a particular combination of values on the three dimensions of the system. The restricted definition of hallucir.ation preferred by Goldberger and Holt corresponds to the special case of the 515 reactions in the present system.

TABLE 2

Sensory Isolation Effects

Subj.	Sex	Age	Diagnosis	Word Assns. Pre	Word Assns. Post	A†	E‡	Sensory Reactions	Hallucinatory Reactions
1(R)*	M	26	Normal			1	1	1. Visual blurring (353) 2. Pressure on ears (555)	1. Spinning (511) 2. Odor of burning motor (413)
2(R)	M	33	Normal			5	5	1. Visual fatigue (544) 2. Pressure on head and ears (555) 3. Felt warm (555)	
3(B)	F	34	Normal	84	91	4	3	1. Visual spots (333) 2. Felt warm (555)	1. Heavy limbs (511) 2. Talking (313) 3. Head tilted (511)
4(W)	F	24	Normal	72	49	4	5	1. Felt warm (555) 2. Visual intensity changes (333) 3. Nausea (335) 4. Hands felt puffy (434)	1. Talking (313)
5(R)	M	39	Anxiety Reaction	—	61	5	4	1. Felt warm (555) 2. Visual fatigue (444) 3. Smelled bandages (232) 4. Tightness around head (535)	
6(B)	M	18	Sociopathic personality	100	103	3	2	1. Felt hot (545) 2. Pressure on ears (555) 3. Cool air (534)	1. Ringing like church bell (514) 2. Repeated knock on door (515)
7(B)	M	20	Dyssocial personality, exhibitionism	61	65	3	1	1. Pressure on face (444) 2. Stomach ache (434) 3. Pressure on ears (555)	1. Sounds of camera (515) 2. Morse code (514) 3. Knocking (515) 4. Air blowing on body (525) 5. Heard additional fan (525)
8(W)	M	28	Chronic schizophrenic	22	19	1	1	1. Felt cool (535)	1. Words (315) 2. Warmth of someone passing (415)
9(W)	F	31	Acute schizophrenic	39	48	3	1	1. Dizziness (535) 2. Saw shadows (555)	1. Cold, small object touch her knee (515) 2. Someone hit her head (515) 3. Bell ringing (515) 4. Someone walking (515) 5. Doors open & close (515) 6. Heard washing of dishes (515) 7. Someone cough (515) 8. Heard keys dangled (515) 9. Heard plane motor (525) 10. Chains rattling (515) 11. Increase in light when door opened (515)
10(B)	F	39	Chronic schizophrenic	40	34	3	2	1. Felt hot (555) 2. Headache (535) 3. Roaring in ear (555) 4. Felt gas under breast (434)	1. Talking (515) 2. Reduction of chronic genital sensation (313) 3. Heard chronic voices (515)

* R = Red frosted goggles
B = Black goggles
W = White frosted goggles
† A = Activity rating
‡ E = Emotionality rating

deprivation affected hallucinatory tendencies in any other sense modality. This finding is in keeping with a previous study by the present authors (6) showing that amount of visual deprivation did not affect the efficiency of visual functioning.

Although neither condition of visual deprivation generated hallucinations, the greater frequency of visual sensory reactions found with white goggles parallels the observation that a greater number of abnormal visual phenomena have been reported under conditions of diffuse visual stimulation (*e.g.*, the McGill conditions), as contrasted with conditions of total visual blackout such as those employed by Vernon and Hoffman (8). This parallel suggests the possibility that the vivid visual experiences reported after prolonged isolation with unpatterned visual input may be elaborations on the initial peripheral sensory reactions of the type reported by our subjects after brief isolation.

Cognitive Effects: Inspection of the word association data in Table 2 indicates that the isolation procedure did not produce any consistent disruption of productive thinking. Four of the seven subjects[4] tested produced more associations after isolation than before. The only subject showing an appreciable decline in associations was normal Subject 4, who commented after 58 minutes of isolation that she felt nauseous and unable to speak. No subject displayed any observable sign of changed cognitive functioning in the post-test interview.

Effects on Emotionality and Activity: All subjects were also rated from 1 to 5 on both the amount of activity and emotionality they exhibited during the experimental hour. These ratings are shown under the letters A and E in Table 2, with the larger numbers representing greater activity or emotionality. The activity ratings were based on the amount of movement the subject displayed in isolation, while the emotionality ratings were made on the basis of the subject's reactions both during and following the isolation session. Table 2 shows that the normal and neurotic subjects were generally more anxious and restless in the isolation situation than the schizophrenic and sociopathic subjects. In general, those subjects in poorest contact with reality showed the least discomfort and the most positive reactions.

This finding confirms those obtained by Harris (3) who reports that his schizophrenic patients tolerated the sensory deprivation experience remarkably well. Like Harris' hebephrenic type of patient, the chronic schizophrenic male (Subject 8) found the isolation setting restful and peaceful, describing it as "comfortable and cool." It may also be noted, particularly in the non-psychotic subjects, that the amount of discomfort was negatively related to the frequency of hallucinations.

SUMMARY AND CONCLUSIONS

1. One hour of sensory isolation coupled with the suggestion that unusual perceptions are appropriate in the situation does not produce any cognitive dysfunction or vivid pictorial hallucinations.

2. The hallucinatory reactions which were obtained during brief isolation were less elaborate and more commonplace than the phenomena reported in studies of prolonged isolation.

3. A system was devised for evaluating sensory and hallucinatory reactions, so that any given response can be clasified in terms of its clarity, objectivity, and subjective reality. This system served to distinguish between the relatively simple and believable distortions of reality seen in brief isolation

[4] Prior to the introduction of the word association procedure, cognitive functioning was tested by requiring subjects to count serial sevens backwards from 100. The second normal subject showed a very marked improvement in his score following isolation when tested by this procedure. He stated, however, that this improvement resulted from his practicing serial sevens during the experimental hour to control feelings of panic.

from the complex pictorial images found in prolonged isolation.

4. The hallucinatory perceptions obtained in one hour of isolation are regarded as resulting largely from increased sensitivity to residual stimuli, which ultimately generates the fabrication of events in a situation providing only minimal opportunities to test reality.

5. Several tentative relationships are suggested by the present data:

a. Reactions to brief isolation reflect dominant needs and habit systems of the individual subject.

b. The degree to which the isolation procedure constitutes a stress-experience may be positively related to the degree of reality-contact of the subject. Normal individuals reacted with more discomfort and less positive feelings to the isolation procedure than did psychotics.

c. The probability of evoking an hallucinatory response was inversely related to the stress effects (emotionality) shown overtly by the subject in the isolation setting.

d. The number of visual sensory reactions reported was higher when there was a diffuse input of stimulation, than when stimulation was totally restricted. It is possible that with diffuse (unpatterned) visual stimulation the peripheral sensory reactions evoked in the one-hour procedure may provide the perceptual ingredients for the more complex and elaborate phenomena reported by subjects after more prolonged periods of isolation.

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AN APPRAISAL OF DURATION OF STAY IN OUTPATIENT PSYCHOTHERAPY

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One problem in psychotherapy which has attracted considerable interest in recent years concerns the duration of stay in psychotherapy and the possible variables which may be related to it. Unlike most other types of treatment in the more purely medical fields there is the phenomenon of individuals refusing psychological treatment or discontinuing treatment before it has been completed. In an earlier study by one of the writers (4) it was pointed out that a large percentage of the cases who began treatment in a Veterans' Administration outpatient clinic terminated this treatment voluntarily by failing to return for a scheduled visit. In fact, over forty per cent of the patients discontinued psychotherapy before the fifth interview. Somewhat similar findings from other clinics have also been reported (5, 6), although there is considerable variability in the median length of treatment.

More recently there have been additional studies which have attempted to relate duration of stay in psychotherapy to selected personal and social variables (2, 5, 7, 8). There is little question that many different factors influence the length of psychotherapy. The type of patient population, the clinical setting, the orientation toward psychotherapy, the personality and skill of the therapist, the individual patient, interactions in the therapeutic situation, and similar variables may all contribute to duration of treatment. It is therefore understandable that some variations in research findings are to be expected. It is necessary that additional investigations be carried out in diverse settings as checks on earlier findings and to help anchor trends which appear to have some generality.

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METHOD

The present study is an attempt to explore further the problem of duration of stay in psychotherapy in an adult outpatient clinic. The clinic is part of the Nebraska Psychiatric Institute, University of Nebraska College of Medicine. For the purposes of the present investigation all closed cases between 1953 and 1956 who had gone through the intake procedures and had received at least one psychotherapeutic interview were studied. Omitting all cases who were still in therapy or who had been in therapy previously, there remained 135 cases whose first therapeutic contact with our outpatient clinic occurred during this period of time. The group was made up of 75 females and 60 males, all of whom were white. An analysis was made of the number of psychotherapeutic interviews for each patient in this sample with special attention to such variables as age, sex, education, and diagnostic category. These variables have been reported in different studies as related to duration or progress in psychotherapy.

It is pertinent, also, to mention something about the intake process and the procedure for selecting cases for psychotherapy in this setting, since this may influence the kind of results secured. Several considerations enter into the acceptance of patients for treatment here. There is first of all a restriction in terms of income. This is somewhat flexible in terms of size of family, current financial situation, and referral source. However, this does tend to screen out individuals with moderate to high incomes. Applicants for outpatient treatment are first seen by a so-

ial worker, who attempts to secure data pertinent to the patient's current complaints, attitudes toward therapy and family situation. If, at this time, some other type of disposition seems indicated, appropriate recommendations or referrals are made. If not, the application is considered at an outpatient screening committee meeting. If the applicant is considered to be a suitable prospect for outpatient psychotherapy or an interesting teaching case, he is scheduled for an intake examination including psychiatric and psychological appraisals. After these procedures are completed, the case is discussed at the outpatient staff conference where the final decision to accept the patient for psychotherapy is made. The staff members present at this conference make this decision, and the factors involved in accepting or rejecting a patient for psychotherapy cannot be delineated very precisely. If the applicant considered is judged not to be in need of psychotherapy, or to lack motivation for psychotherapy, the chances are high that his application will be rejected. On the other hand, if the prognosis is deemed poor but the individual is considered to be in need of treatment, he usually will be given an opportunity to begin therapy. Obviously, these are judgmental problems, and there are no hard and fast rules. However, there is a moderate amount of appraisal and selection before a patient is accepted for psychotherapy.

Eighty-three per cent of the patients studied were less than 40 years of age. In terms of education, 22 per cent had some education beyond high school, 31 per cent were high school graduates, the education of 28 per cent of the group did not go as far as graduation from high school, and accurate data on education for the remaining 19 per cent of the group were not available. Thus over half of the group were at least high school graduates. It is likely, on the basis of our data and of other studies (5), that patients with relatively high educational attainment are more likely to be accepted for psychotherapy than those with minimal education.

Most of the patients in this study can be categorized into three large diagnostic groups. Forty-four per cent were diagnosed as psychoneurotic, 25 per cent were grouped under the various types of personality disorders, and the third largest group, consisting of patients diagnosed as psychotic, constituted 21 per cent of the group.

RESULTS

The duration of psychotherapy in terms of number of interviews was first analyzed in relation to sex of patient, age, level of education, and psychiatric diagnosis. In the process of analyzing these data we became aware of another variable which might influence the duration of psychotherapy. This was the observation that 42 per cent of the patients had gone into outpatient psychotherapy shortly after completing a brief period of hospitalization. The median length of hospitalization was 70 days with a quartile deviation of 25 days. Since this group might differ from the group which had no preceding hospitalization in terms of more serious or acute disturbance as well as by previous contact with psychiatrists and psychotherapists, analyses were carried out separately for these two groups of patients. The group which began outpatient psychotherapy after hospitalization will be referred to as the Follow-Up (FP) group while the other group will be referred to as the Outpatient group (OP). Since the main variable in which we were interested was duration of psychotherapy, the first comparison of the two groups was made with reference to this variable. As can be seen in Table 1, the two groups of patients have practically the same median length of psychotherapy. For both groups, either 50 or approximately 50 per cent of the patients did not continue beyond the twelfth interview. Although the two groups were similar in this regard, all subsequent analyses were first carried out separately for each group as a check on the possible influence of previous hospitalization on any other variables. Where no differences

TABLE 1

Patient Groups and Median Length of Treatment

Patient Groups	Number of Treatment Interviews*		
	0 to 12	Over 12	Total
OP	39	39	78
FP	28	29	57
Total	67	68	135

* The tabled values are numbers of individuals.

TABLE 2

Patient Variables and Median Length of Treatment

(N = 135)

Patient Variables		Number of Treatment Interviews*		
		0–12	Over 12	Totals
Sex	Male	29	31	60
	Female	38	37	75
Age	Under 20	4	5	9
	20–29	26	36	62
	30–39	24	17	41
	40–49	8	8	16
	50 and over	5	2	7
Education	Beyond High Sch.	16	14	30
	High Sch. Grad.	20	22	42
	Less Than High Sch. Grad.	19	19	38
	No Data	12	13	25
Diagnostic Category	Psychosis	18	11	29
	Psychoneurosis	26	34	60
	Personality Disorder	15	16	31
	Other	8	7	15

* The tabled values are numbers of individuals.

occurred, the data were combined and presented for the entire group of patients. Where differences appeared to occur, the findings are reported separately for the OP and FP groups.

Before proceeding to our analysis of the duration of therapy in relation to certain patient variables, it is worth commenting briefly on the median length of treatment. The median of 12 interviews obtained is higher than that obtained in a majority of similar studies. For example, median therapeutic interviews in different V. A. clinics range from three (1) to seven (4) to nine (7). A comparable study of outpatient psychotherapy at the Phipps Psychiatric Clinic at Hopkins has reported a median of six interviews (5). It is conceivable that the type of selection and screening described previously is largely responsible for this finding, since the majority of therapists in this setting are relatively inexperienced therapists, *i.e.*, psychiatric residents who have not yet completed their psychiatric training.

The length of psychotherapy in relation to sex of patient, age, education and diagnosis for the entire group of patients is presented in Table 2. As can be seen there, sex does not appear to be an important factor in relation to duration of stay in psychotherapy. Using 12 interviews, the median length of treatment, as a point of comparison, very close to 50 per cent of both males and females exceed the median. When the OP and FP groups are analyzed separately in terms of sex of patients, the differences again are too small to be important in accounting for differences in length of treatment.

In contrast to the present findings, two other studies report a statistically significant tendency for males to remain longer in therapy than females (2, 5). In the light of our negative findings and the fact that in Cartwright's study only a small proportion of the total variance in length of therapy could be attributed to the sex of the patient, it does not appear that sex is an important variable determining duration of stay.

The data on age appeared to reflect somewhat more of a relationship to number of psychotherapy interviews than did some of the other possible variables. For example, none of the patients under 20 years of age dropped out or were terminated prior to the fifth interview, whereas four of the seven patients 50 years of age and older did not pro-

ceed beyond four interviews. Obviously, however, such trends were not uniform throughout the age distribution and involved only a small number of cases in some of the different age groups. No significant differences were found when the OP and FP groups were analyzed separately. To appraise the matter further, the groups were combined and arbitrarily divided into patients under 30 years of age and those over 30 years of age, and an analysis by means of chi-square performed. The value obtained fell between the .05 and .10 level of confidence. Thus while a trend was evident, it did not reach an acceptable level of confidence. A survey of other investigations reveals somewhat conflicting findings with regard to age as a variable in psychotherapy. Two studies (2, 5) report no significant relationship between age and length of therapy, in another, apparently no significant relationship existed (6), whereas in a fourth study a statistically significant difference was found between the mean age of those continuing and discontinuing psychotherapy in terms of the median length of therapy (7). In the latter instance, however, there was less than two years difference in the mean age of the two groups studied. Thus far, on the basis of the data available, age has not been established as a significant variable in terms of duration of psychotherapy.

The relationship of education to length of stay in psychotherapy was next investigated. As is evident in Table 2, no marked relationship appears to exist between duration of stay and level of education. Similar trends were evident when the OP and FP groups were analyzed separately. Most of the subgroups categorized in terms of education appear almost equally divided in terms of those exceeding and not exceeding the median number of interviews in therapy. Thus, in contrast to the findings of others (5, 6, 7), level of education did not appear to be a factor in length of therapy in the present group of subjects. One cannot state with certainty what the reasons for this finding are, but some possible explanations can be offered. Our total group is probably higher in education than some of the other groups studied. As mentioned previously, over half of our subjects graduated from high school or went on to college and only one patient completed less than seven grades of schooling. In those settings where screening is less intensive or where legal requirements dictate who receives treatment, a wider range of educational experience would be likely to occur. In such instances education appears to be a more important variable than was found to be the case in this study.

The next variable examined was that of psychiatric diagnosis. Most of the cases could be grouped into three broad categories for purposes of analysis and compared in terms of those remaining beyond the median length of stay. The data for the total group are also given in Table 2 and indicate only a slight relationship between length of psychotherapy and two of the diagnostic groups. In the case of psychotic patients, just over 60 per cent of the patients terminated treatment by the twelfth interview. A somewhat reversed trend is noted for the neurotic patients with almost 60 per cent continuing in therapy beyond the twelfth interview. However, the differences are not statistically significant when analyzed by chi-square. This was also true for separate analyses of the OP and FP groups. Similar negative findings have also been reported elsewhere (5).

On the basis of the preceding analyses, none of the variables investigated appeared to have a significant relationship to the length of treatment. While age approached significance, education, sex, diagnosis and previous hospitalization did not appear to relate significantly to duration of psychotherapy. To investigate the matter further, attention was directed to "reason for termination" and the degree of improvement as recorded by the therapist. While such data frequently leave much to be desired, it was thought worthwhile to make an exploration of this kind.

TABLE 3

Length of Psychotherapy in Relation to Improvement

Judgment of Improvement	Number of Interviews*					
	0–4	5–8	9–12	13–21	22 & over	Total
Improved						
OP	4	5	11	19	16	55
FP	8	8	5	10	15	46
Unimproved						
OP	7	8	3	2	1	21
FP	3	1	3	1	2	10
Total						132

* The tabled values are numbers of individuals.

In analyzing the data on length of psychotherapy in relation to therapists' judgment of improvement and reason for termination, there appeared to be some variations in the findings for the OP and FP groups. As a consequence, the data for these two groups are reported separately. As noted in Table 3, however, a judgment of improvement is definitely related to length of stay, regardless of the group involved. Prior to the ninth interview just slightly over half of the cases were judged improved whereas this percentage increased sharply with the ninth interview. Of those remaining in psychotherapy beyond the twelfth interview, 91 per cent are judged to be improved. What such a judgment really conveys is, of course, difficult to define. It cannot be viewed automatically as indicating significant change in personality or behavior, since no consistent criteria of change are used or mentioned in these judgments. The frequency of such judgments also appears to vary rather widely from clinic to clinic (4, 5), and may represent different subjective criteria of improvement. However, there is little question that the frequency of such judgments of improvement appears related to the length of stay in psychotherapy.

One other aspect of this analysis is also worth noting. Although only a slightly higher percentage of patients in the FP group were judged to be improved (82 per cent) as contrasted with the OP group (72 per cent), there were some differences between these groups in terms of length of stay and judgments of improvement. When all cases terminated prior to the ninth interview were examined, it was found that only 38 per cent of the OP group was judged to be improved whereas 80 per cent of the FP group was so judged. Since there are only forty-four cases included in this analysis, it may not be reliable. However, it is an interesting observation, particularly when both groups tend to be seen as somewhat equally improved after the ninth interview. One possible explanation is that the tendency to use the term "improved" is influenced not only by objective change in the patient, but is in part a function of the therapist's familiarity with the patient. Patients in the FP group in almost all instances were known to their therapists while in the hospital prior to the initiation of outpatient therapy. Increased awareness of the subtler aspects of the patient's feelings and behavior as the result of longer contact could contribute to a greater feeling of change on the part of the therapist. It is also likely that the interviews in outpatient therapy were seen as a continuation of the contacts developed in inpatient treatment. As a result, the frame of reference for evaluation may have been different for this group.

The final analysis is concerned with factors related to termination. In general, the reasons for termination fall into two primary groups: those in which the patient initiates termination and those in which termination is largely guided by the therapist. Other factors such as death, transfer and leaving town were so infrequent that they were excluded from the analysis presented in Table 4. As can be observed there, while some relationship appears to exist between type of termination and duration of psychotherapy, it is by no means uniform. Although the majority of patients terminating prior to the ninth interview are those who initiate

TABLE 4
Length of Psychotherapy and Source of Termination

Source of Termination	Number of Interviews*					
	0–4	5–8	9–12	13–21	22 & over	Total
Patient						
OP	8	10	3	3	9	33
FP	8	4	4	4	4	24
Therapist						
OP	2	4	10	17	9	42
FP	2	5	1	5	11	24
Total						123

* The tabled values are numbers of individuals.

termination themselves, 39 per cent of those who terminate after the twenty-first interview are also self-terminators.

An analysis of type of termination in relation to the OP and FP groups also reveals one possibly interesting difference between these groups. This concerns the source of termination in the two groups when termination occurred between nine and 21 interviews. Of the cases in the OP group terminated in this range, a high percentage (82 per cent) were initiated by the therapist. In contrast, less than half of the terminations in this range for the FP group are initiated by the therapist. One possible explanation for this difference is that the therapists of patients in the OP group tend to a greater than usual degree to "screen" their cases at this point. This possibility is consistent with the observation of two investigators (2, 9) that the 13 to 21 interview range is often a difficult or "failure" zone, a period in which behavioral manifestations of resistance are heightened.

DISCUSSION

The current study represents another attempt to evaluate possible factors associated with continuation in psychotherapy. For the most part, the results have been negative. Neither sex of patient, age, education or diagnostic category were found to be significantly related to duration of psychotherapy. The only variable approaching significance was that of age. The finding which is most at variance with previously published research is that concerning the lack of a significant relationship between education and continuation in psychotherapy. It is likely that greater selectivity of patients occurred in our sample of patients than in some of the other studies. Education below a certain minimal level may be important, but its significance as a predictor of length of psychotherapy may diminish beyond that level. It is difficult to appraise this in terms of other studies since different methods of tabulating data have been utilized. However, the study by Rosenthal and Frank (5) appears to offer some support for this interpretation. In their study, the patients with no more than eighth grade education contributed the largest percentage of patients discontinuing therapy prior to the sixth interview. Those with nine to twelve grades of schooling were quite comparable in this respect with those who had attended college. The relatively small percentage of cases in the current sample with only elementary education may account for the variation in findings. Our results, however, suggest that other factors are involved in length of therapy and perhaps are of greater importance.

In conclusion, it can be emphasized that while the early dropout in psychotherapy appears to be a problem common to most clinics, the appraisal of the problem in terms of reducing dropout rate is somewhat specific to the individual clinic setting. This is apparent in terms of the variability in the median length of treatment as well as in the other diverse findings reported. Obviously, where the median length of treatment is three interviews, the factors involved may vary from those in other clinics where the median is much greater. Policies of selection and other factors are undoubtedly important. The entire problem is a complex one which is worthy of additional study. In view of the number of patients requesting psychotherapy and the scarcity of available thera-

pists, the large incidence of "dropouts" from psychotherapy represents a waste of specialized therapeutic effort. If poor therapeutic risks can be identified prior to therapy, most of the limited therapeutic resources available might be channeled to those cases who would profit the most. Another aspect of the problem concerns the applicability of current psychotherapeutic approaches for those patients who leave therapy prematurely. A few studies (6, 8) have suggested that the anxious and dissatisfied patient tends to continue in psychotherapy whereas the defensive and rigid patient is more inclined to drop out early. The question has been raised (3) whether current psychotherapies are efficacious with the latter group of patients and if a different approach to them is needed. The therapist's attitude toward the patient also appears to be an important area for further research. On the basis of our data it is suggested that therapists may tend to screen out certain patients after a brief period of interviews. Factors in the therapist or the patient which influence this tendency merit further investigation.

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BOOK REVIEWS

BREMER, JOHAN. *Asexualization.* Macmillan Co., New York, 1959. 366 pp. $5.50

This is a valuable study, by the Medical Director of the Gaustad Mental Hospital in Oslo, Norway, of castration as a psychotherapeutic technique. The book opens with a review of the previous studies of cases carried out in various European countries. Bremer's chief contribution is a scientifically conservative analysis of the results in 216 males and 28 females legally castrated in Norway between 1935 and 1950. All of the cases were carefully followed, and 89 per cent of those surviving were personally interviewed.

The author's conclusions and recommendations seem, on the basis of his carefully presented data, essentially valid. He believes that castration should be carried out only when there are sound medical grounds for it, arrived at after a very careful psychiatric evaluation. Too often it seems to have been employed primarily as a measure to win special consideration from courts. He believes that it should never be forced upon an individual and that all of its possible consequences should be fully presented to the patient before securing his consent. He concludes, "... The therapeutic effect is most satisfactory in every respect when the sexual factor is the primary cause of the behavioural disturbances or criminality—provided that the patient is emotionally adjusted to accept the mutilation and the physical and mental consequences of castration. The more the sexual factor is overshadowed by the other causal factors of behavioural disturbances and mental diseases the less satisfactory—indeed negative and directly injurious—is the result.... The therapeutic result is by far the best in every respect in the small group of habitual sexual deviates—followed by the oligophrenics who are inclined to react especially favorably if they are released by punitive and security measures shortly after the operation. The results are disappointing in the case of the schizophrenics and epileptics, while pronounced psychopathic characteristics are greatly complicating factors."

Professor Bremer feels that a study of the small number of female cases fails to demonstrate the utility of the procedure in women. He warns soberly that castration can never be looked upon as a prominent method of dealing with sexual offenses in males, since it proves to be of real value in only a small proportion of cases and these must be carefully selected after psychiatric evaluation.

Manfred S. Guttmacher

SZONDI, L., MOSER, U. AND WEBB, M. W. *The Szondi Test in Diagnosis, Prognosis and Treatment.* J. B. Lippincott Co., Philadelphia, 1959. xv + 309 pp., illus. $12.00

This is the first volume devoted by Szondi to a description of his test since his Experimentelle Triebsdiagnostik (1947). The stated purpose is 1) to clarify the rationale of the Szondi Test, 2) to help the reader obtain competence in its clinical use, 3) to enable the student to comprehend the current literature on the subject, 4) to assist the researcher in designing adequate studies, and 5) to give the scholar a foundation for comprehending other Szondian works.

It is difficult for the American trained psychologist to understand the kind of bias inherent in the dichotomy presented at the beginning of the volume and adhered to continuously throughout the remainder. On the one hand is "materialism" which implies an interest in somatic types of therapy, statistical methods of research, and an organic bias in regard to etiological theories. On the other hand is "clinicalism" which is characterized by an interest in psychotherapy, a preference for depth analysis as a research

method, and an analytic attitude concerning etiology. In this reviewer's opinion it is difficult to accept these as syndromes.

The first part of the book deals with history, rationale, and theory. American studies are referred to but none are cited. The majority of the 332 studies covered in David's bibliography (1954) are totally ignored. It is asserted that "the language of choice has stood the test of clinical validity." The selection of the pictures is described without regard to relevant research which challenges the validity of such procedure (Klopfer and Borstelmann, 1950). The content is mainly of the cookbook variety, with no evidence other than the presentation of case material. Schicksal analysis is presented by Moser and defined as "the genealogy of the unconscious" or as a combination of the "heredobiology" and "Freudian psychoanalysis." The four principles of this type of analysis are that: 1) latent genes direct object choice; 2) drive and defense are both determined by heredity; 3) there are four essential areas to be differentiated (the vectors of the Szondi Test); and 4) ambivalence is due to biological antithesis. The author distinguishes three types of unconscious: personal, familial, and collective, with the familial being the focus in the Szondi system. He states that the test makes it possible to reveal the familial unconscious without the cumbersome process of genealogical tracing. The rationale of the interpretations offered here is very similar to that offered in Deri's *Introduction to the Szondi Test* (1949). A logical hierarchy is presented, with profiles illustrating the development of the individual from birth to death. The methods of diagnosis are either syndromatic or "Linnaean." The former brings about diagnoses which are stated to vary widely from the standard psychiatric nomenclature, while the latter consists in an analysis of basic drives through a computation of choices made on the test.

Two pages are devoted to the matter of validity. Studies contemptuously referred to as "statistical" are not presented, it being stated that these studies are based either on false premises or inadequate statistics. Studies based on blind diagnoses are considered adequate if they are properly carried out. The operational definition of an adequate study is one which tends to support the assertions made by Szondi. In the ensuing section on theory, Schicksal is discussed and presumed to be based upon heredity, the character of drives, the social milieu, the mental milieu, the ego, and the spirit. The fate of the individual is said to be based partly upon compulsion and partly upon choice; but to be fully liberated, faith in the spiritual is considered to be essential.

The second section of the book deals with the clinical application of the test. Webb presents a case illustrating hermaphrodism. Boeszoermenyi presents a "statistical" study which deals with the measurement of factorial variability. The author derives an ingenious method, but he uses it to demonstrate Szondi's hypotheses, rather than to test them. Achtnich discusses probability theory in quite a sophisticated manner, then goes on to point out that Szondi results cannot be psychologically interpreted without considering the probability of choices, magnitudes, and constellations. Another case illustration by Webb deals with the legal application of the test, with much theory being introduced. All the tests cited are forced into the "epileptoid" frame of reference, with their adequacy being judged by the closeness of fit. In this chapter five pages are devoted to an analysis of the Rorschach and 44 pages to the Szondi, the avowed purpose of which is not to investigate the (Szondi) test but to "validate" it.

In the final section, Szondi's technique of Schicksal analysis is described in somewhat greater detail. It is a type of psychoshock in which "fatefully" disordered persons are treated. "Fate" disorders are those in which the sufferer is morbid in his exercise of the phenomenon of choice. Among selective acts involving choice are those dictated by hereditary tendencies and those directed by the personal ego of the individual. The three

phases of the analytic method consist of 1) the ordinary psychoanalytic uncovering; 2) the "hammer-blow association method," in which the individual is shocked by being confronted directly with his feelings about his ancestors, or with genealogical evidence or with the Szondi test evidence; and 3) the ego-analytic phase in which the antithesis between drives is presumably bridged so as to bring about self-actualization on the part of the patient.

Throughout this entire volume, which is evidently aimed at the American reader, a note of defensiveness appears. The authors somehow seem to recognize the possible unpalatability of their approach to someone trained in the scientific method. It was disappointing to find that Szondi in 1959 could continue to ignore all of the pertinent questions raised by American investigators (Borstelmann and Klopfer, 1953) and find the empirical method so distasteful. In spite of this the theory and therapeutic method described seem interesting and ingenious, and quite worthy of perusal. Careful case illustrations are always instructive to the clinician. However, the gap between European armchair psychology and American empirical psychology seems just as wide in 1959 as it was in 1947.

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Walter G. Klopfer

Attneave, Fred. *Applications of Information Theory to Psychology*. Henry Holt & Co., New York, 1959. vii + 120 pp. $3.75

Fred Attneave is an experimental psychologist at the University of Oregon. In the ten years since information theory was introduced to psychology, Attneave has been one of its more active users, both as a statistical technique and as a viewpoint in doing research on problems of perception.

There has as yet been no reasonable integrated summary of information theory as it is known to its users in the field of psychology. The theory is very broad, and while its fundamental concepts remain the same from one to another field of application, the details and the orientations are quite different. Thus there has been a very real need for a monograph such as Attneave has written.

The monograph is small. The first chapter is on basic concepts and will serve as an excellent introduction to the new student of information theory. The second chapter concerns information theory as applied to sequential data and the third concerns the general problem of information transmission. Both of these chapters bring much material together in a very useful way, and deal with information theory primarily as a descriptive statistic. The last chapter concerns some of the more general uses of information theory—particularly in perceptual research.

The book is very good for what it sets out to do. Unfortunately, this reviewer feels that it did not try to do as much as was needed. Surprisingly enough, it is in the area of Attneave's own work that much more detailed description would have been valuable. It is true that his work does exist in journals, but an integrated presentation of it and related work would have been very helpful. In the Forward, Attneave states that the book is not to be used as a vehicle for his own original contributions. It is to be regretted that Attneave stuck to his resolve.

W. R. Garner

Beukenkamp, Cornelius, Jr. *Fortunate Strangers: An Experience in Group Psychotherapy*. Grove Press, New York, 1959. 269 pp. $1.95

As the subtitle indicates, this book is the

report of the author's experience in placing in a group patients he had been treating by individual psychotherapy. These patients had come to a standstill in treatment and were in effect telling him they wanted a second chance. That is, a second chance to grow up in an accepting and understanding environment, which presumably would repeat but also correct the original unhappy and pathogenic experience of their childhood. There were eight patients, four men and four women; all young, bright and eager for this help. What follows is a description at times penetrating, at other times somewhat superficial, but always clear, of their reactions and emotional involvements with each other, with the therapist and with the group.

Rather than relate the particular problems and events of the group of patients, it might be more useful to distill out of the material what seems to be the author's therapeutic philosophy, serving as the basis for his particular technique. In contributing to the skill of a group-therapist there seem to be two qualities which are essential to the proper ongoing effectiveness of the group. The author is centainly lacking in neither. The first quality is the understanding that the group behaves as a whole unit, that there is a group emotional climate which is indicated by the seating arrangement, the predominant mood, the apparent interest or lack of it, all of which can be understood as resulting from events immediately preceding. The other is the understanding that the therapist's own feelings and attitudes affect the group's cohesion, the group's work and the therapy generally in a way which is incomparably more significant than any other factor.

Through a continuous self-examination, much of which is directly and clearly described, the author is enabled to grasp the problems that beset at times the individual members, at times the whole group, at other times himself, with the resultant effect on the group. Two examples of this process are particularly striking. In the first instance the author found that his own first lack of ease was blocking group progress. He identified the group with the family. It was only when he accepted emotionally his position as the parent rather than the doctor that the patients were able in turn to accept him. In another instance two group members were having an affair, and the therapist found that his reaction to this development was again blocking progress. Only when the therapist understood that his own reaction was based on his own unconscious incestuous wishes was he able fully to grasp the meaning of the patients' behavior. This in turn removed the block to therapeutic progress.

In this volume it is clear that the author applies many principles of dynamic psychiatry which seem directly borrowed from psychoanalysis. He states that maturing in treatment is the result of living through experiences, originally crippling, in a new setting characterized by acceptance and understanding. He defines in layman's terms such concepts as transference orality and introjection, most often in ways that make sense operationally. He understands the necessity to prevent acting out behavior, and advises group members against having outside contacts with each other. Such contacts tend to serve as emotional leaks for important material that would then escape the attention of the group. Finally, he follows a pattern that is generally passive with respect to leading the group.

There are, on the other hand, a number of departures from dynamic thinking which at times tend to give the impression of a kind of repressive inspirational approach. The behavior of the members of the therapeutic group is at times evaluated in terms of maturity or growth, so that they tend to judge each other's progress in these terms. The therapist's appreciative comment to a patient who has been especially productive during one session was, "Well you've had quite a session, girl." This technique holds

up the approved behavior to the other participants as a model to emulate.

Perhaps the most striking aspect of the author's approach is the fact that the specific emotional problems that beset the patients on unconscious levels, are de-emphasized. After reading the book this reviewer did not feel that he had really gotten to know the protagonists, except perhaps in the broadest terms. In this respect the case history found at the beginning of the work is of little help in understanding the patients' later course in therapy. It is the stated assumption of the author that the specific unconscious problems of these patients are somewhat irrelevant to their improvement. In the warm feeling of the group and in the emotional experience of an accepting parent-substitute these problems presumably will vanish. In view of the relative absence of the usual clinical exploration of repressed problems and conflicts, it would appear that the kind of improvement reported in this volume must be based on a positive transference to the therapist. This seems in fact to be the conscious goal of the author.

Although many clinicians will look with suspicion on the technique here presented, there are a number of positive qualities to be noted. The reader is allowed to experience the process of therapy with the patients involved, and the author is forthright and candid in his descriptions. This is a readable, even entertaining book. It is recommended to those interested in group therapy and to psychiatric practitioners in general.

Albert E. Dreyfus

JONES, ERNEST. *Free Associations.* Basic Books, Inc., New York, 1959. 264. pp., illus. $5.00

This book is the next-to-last work to come from the desk of this distinguished elder statesman of the psychoanalytic movement. Its final editing was interrupted by Jones' preparation of four lectures given on the occasion of the centenary observation of Freud's birth (published as *Sigmund Freud: Four Centenary Lectures*), and—perhaps with the latter final publication—this slim volume will inevitably be considered as a kind of lesser companion piece to the three-volume Freud biography. Jones began this autobiography, subtitled "Memoirs of a Psychoanalyst," during World War II, but put it aside, reportedly because of his conviction that his personal account would lack interest and validity were it not to include descriptions of the internal tensions and disagreements in the inner circle of Freud's followers. In a real sense it appears to have been Jones' dissatisfaction with his first rough autobiographical draft that led him to undertake the detailed narrative of Freud's life, to which enterprise, as is well-known, Jones devoted the better part of the last ten years of his life.

Returning to the preparation of the present book in 1957, Jones was in his final (though then undiagnosed) illness and realized that not enough time was available to him to finish it. In its published form the book comprises eleven chapters, of which the author had revised and polished the first seven, and closes with the year 1918. An Epilogue briefly recounting the last forty years of Jones' life has been added by the elder son, Mervyn Jones.

This is not to say that the book suffers in being thus incomplete, lacking the personal reflections on the broad and widely-known achievements of the man's professional maturity. On the contrary; the interest of most readers would surely focus on the earlier life of the author, his perceptions of the medical world in the first two decades of this century, the account of his first meetings with Freud and his entrance into the psychoanalytic movement.

Highly readable and instructive, the book is enormously entertaining as well. It is crammed with vivid recollections, observations and anecdotes (only a few of which are duplicated in the Freud biography) that reveal the author in the early phases of

his career as an astute and perceptive observer. In speaking of his medical experiences when in his mid-twenties, many of his asides, *e.g.* his observation (p. 120) that many medical scientists had no awareness of probability theory or its practical application, can—regrettably—be read with profit today. At the same time Jones clearly sees himself as a young man not without fault ("opinionated, tactless, conceited") and is at pains to document the fact that he was not always easy to get along with. His tremendous capacity for work, his well-nigh incredible energy and the broad extent of his interests outside his professional field are all, and most often amusingly, revealed here.

A man of parts and many talents is seen in these pages. Had Jones not gone into medicine, which was his fixed intention from childhood, he might well have distinguished himself in any of a number of other fields. The precocity of childhood did not wane with the years: he continued, and by no means as a dilettante, actively to pursue other interests: mathematics, cryptography, music, language. His reconstruction of his early unique position as the only Gentile (saving the Swiss) among Freud's followers, his account of his acceptance without conscious prejudice of childhood sexuality, and the parallels drawn between the social values of his own Welsh background and those of the pioneer psychoanalysts, all bespeak the keen sociological observer.

This is a book hard to put down once begun. In dealing with his early experiences in the Viennese group, Jones' beautifully polished yet easy and informal writing here has none of the occasional defensiveness that to this reviewer made the three-volume Freud less than completely satisfying. Clearly a large part of the author's motive in preparing this account was his conviction of the lasting importance of the "evolution of Freud's works and ideas," at which he was a witness and participant. Whether about these or more personal matters he writes candidly, divertingly, and with a prodigious fund of experience and much wisdom. Highly recommended.

H. A. Robinson

JAHODA, MARIE. *Current Concepts of Positive Mental Health.* Basic Books, Inc., New York, 1958. xxi + 136 pp. $2.75

This first monograph of the proposed series to be published by the Joint Commission on Mental Illness and Health is the work of a social scientist, Marie Jahoda, with the help and criticism of two physicians and six doctors of philosophy, members of an advisory committee. Perhaps as a means of balance, Walter Barton has added a comfortable chapter entitled "Viewpoint of a Clinician," in which he defends the view, rather rudely disregarded in the first chapter of the book, that health is the absence of disease or of the failure of physiological or psychological homeostasis. Another view, that "normal" represents a group showing no more than deviation of a certain degree from the statistical average performance, is also discarded as untenable early in the book, in three pages of discussion, though much of public health theory and more of its success in the past derives from this notion. Disease and health are not to be considered as parts of the same universe. The presence of disease takes a person out of the healthy population—the conclusion is reached that there must be separate parameters for the judgments made of health and of the extent of disease. The book then proceeds to discuss many ideas on the qualities of the healthy person.

The classification of these ideas is new, clear, and serves both to illuminate how thin and weak present concepts really are and to furnish a structure or skeleton which should aid in future more critical thinking. The concepts are grouped according to whether they depend on self-attitudes, movement toward self-actualization, balance or integration of personality attributes, capacity for independence, perception of

reality and, finally, efficiency of mastery over the environment. As would be expected, these classes of ideas are found to overlap and contaminate each other extensively. The book includes a helpful, if complicated, table of the various ideas and the criteria considered indispensable for their further elaboration. In another table, the research instruments needed for further study are outlined.

While it must be admitted that there are important differences to be observed in the concepts needed for structured thinking about health in the physical and mental aspects, there is some loss of clarity in attempting to build a whole new framework for mental health. Furthermore, the tendency is not to think of a range of mental health, but to describe ideal mental health as though to have a scratch in the finish were to ruin the structure and make it completely unserviceable. In medicine, generally, there is a range of competency considered quite within the concept of normal and even good health, and wide differences are known to occur without leading to allegations of ill health. For example, a person with a "condition" is not necessarily unhealthy, provided the state is not progressive; in the mental health area we tend to think, for example, that even the socially well-adjusted retarded person is not mentally healthy. Medicine, in general, appears to regard people as healthy, regardless of the pathological state of their tissues so long as they are "compensated," that is so long as they can carry out certain not-too-well defined operations. When the pathological state becomes so severe that these operations are impossible by this parameter, the person is no longer considered well. This type of concept of health breaks down only in a few progressive illnesses such as cancer and in a few conditions in which compensation is maintained only through continuous surveillance and medication, as in diabetes.

It is difficult to understand why the concept of operational definition should have received no attention in this book. The failure to consider it and to view mental health as the absence of symptoms rather than the ability to do something has led to serious issues in the interpretation of the Midtown and Sterling County studies. It is hoped that the full publication of these investigators will obviate some of the issues raised by such findings as that which reports only 14 per cent of the population as symptom-free.

This is a helpful and stimulating book. With the present loose and lax conceptualizations it should not be and it is not a satisfying one.

Paul V. Lemkau

SAKEL, MANFRED. *Epilepsy*. Philosophical Library, New York, 1958. xxxvi + 204 pp. $5.00.

The past twenty-five years have brought significant advances in our understanding of the mechanisms of the convulsive disorders. Jackson's brilliant conceptualization of the sudden excessive discharge of groups of neurones has been supported by many different lines of evidence. We have learned a great deal about the excitability characteristics of neurones and their interactions. We have come to recognize different seizure manifestations as related to the precise locus of seizure discharge in the brain. For many, it has become a cliché to proclaim that epilepsy is not a disease and that so-called "idiopathic epilepsy" is susceptible to explanation along lines basically similar to those laid down in studies of "symptomatic epilepsy." It has been widely broadcast that "all epilepsy is one", but not all workers have embodied this concept into their thinking. There are some who continue to regard "idiopathic epilepsy" as a disease and Sakel is among these.

Sakel made a major contribution in the introduction of insulin shock therapy in psychiatry, but his theories as to the rationale of this therapy have received little general acceptance. In the present volume,

he presents these theories in some detail and a very similar theory is proposed for an understanding of the disease of epilepsy.

According to him, there are two Life Drives, the anabolic (static) drive and the catabolic, spendthrift (kinetic) drive. The vital function of the Vegetative Nervous System is conducting, regulating and controlling the Life Processes. The convulsion is looked upon as a "self-defensive reflex mechanism" and is "caused by a sudden unaccountable hyperinsulinemic vagotonia which by a process of reflex reaction, provokes its antagonist and calls upon the defense system to avert the danger threatening the life of the system. The overshooting of the provoked antagonist precipitates a convulsion."

Following this line of thought, Sakel theorized that a "causative treatment" (as opposed to the symptomatic treatment by anti-convulsants) might be achieved by establishing a permanent increased tonus of the "sympathicus" so that a sudden increase in the tonus of the vagus would not result in a convulsion. This he proposed to do by careful transplantation of a piece of thyroid gland from a donor into the thyroid gland of the epileptic. This experiment was carried out in two patients in 1934. In one case he describes remarkable improvement, in the other only temporary improvement, the failure being attributed to resorption of the transplant. These and a few other scattered clinical observations apparently convinced Dr. Sakel of the essential validity of his theories, although he does indicate that further work should be done.

The volume was prepared posthumously and there are no editorial revisions by the author nor, apparently, by anyone else. The writing is repetitious, the presentation poorly organized. It is offered by the publishers primarily as a document of historical interest, as Sakel's last contribution to medical literature. It is doubtful that it will attract more than a very limited segment of the medical public.

Jerome K. Merlis

GLAD, DONALD D. *Operational Values in Psychotherapy*. Oxford University Press, New York, 1959. xiii + 326 pp., illus. $8.50

The author maintains that "a personality theory becomes a value system for the person who espouses it." In psychotherapy, this value system becomes manifest in what the therapist says and does. Personality modification of the patient moves in the direction of that value system, and is more likely to be helpful if the patient is already headed in that direction. In this sense, at least, one may say with Dr. Glad that the "theories tend to prove themselves."

The author provides an interesting exposition and comparison of four theories of psychotherapy, each of which is considered to be essentially a value system. He clearly has a good understanding and working knowledge of all four theories. Condensed into one or two words the analyses of the values or moral dicta inhering in each would appear to be as follows.

Rank: Be somebody.
Rogers: Be yourself.
Freud: Be a man.
Sullivan: Belong.

Dr. Glad shows how these therapeutic ideals pervade the thinking and operations of therapists who subscribe to each theory and how patients tend to become imbued with these orientations and values.

The impact of these chapters is to remind one that theory in psychotherapy is still in a primitive stage, comparable to the cosmogony period of Greek thought when the basic stuff of the universe was thought by various theorists to be either water, air, earth, or fire. Such theorizing of course had its place in history. Many invaluable conceptions of limit, quantity, reality, change, being, perception, etc., were generated in the course of resolving questions posed by each successive theory. The same is true for those theories of personality and psychotherapy which hold sway today. They fulfill an important historic role, providing us with conceptions and facts of human be-

havior that any adequate theory will eventually have to encompass and explain.

The burden of the book is to provide an "operational and theoretical integration of psychotherapy" by comparing the four theories and subsuming the operations of each under broad, descriptive categories. The categories proposed are familiar ones; such as the therapist's expression of affection, neutrality, or aggression; his focus, values, inferences, or interpretations; his passivity, management, or participation. But there is no systematic formulation as to why these particular categories are *the* most desirable ones for an "operational integration." Other possibilities are not even considered. Nor does this reviewer find a truly *theoretical* integration of psychotherapy in the book.

Dr. Glad rightly feels that we must move on beyond the contemporary theories if we are to achieve a science of psychotherapy. However, his advocacy of an operational analysis of these theories as a next step forward seems to me to beg the fundamental questions. It is as though one might have suggested in the golden Greek days that a careful, well-categorized, comparative analysis of the theories of Thales, Anaximenes, Heraclitus, Pythagoras, Empedocles, *et al.* would provide the answers to the questions then at issue. In the end, acceptable solutions were fabricated in that assembly line of knowledge known as scientific inquiry, which generated its own operations, models, concepts, and modes of analysis. The principles of psychological therapeutics will eventually be gleaned not from comparisons of current theories, but from basic behavioral science, from its concepts and laws. First steps toward the construction of such theory have been taken by such investigators as Shoben, Wolpe and Bergman.

The book, unfortunately, is written in a heavy, labored style. Repetitiousness occurs to the point of exasperation. The author uses words with a grating sound, such as "knowledges" or "logics," even though he is clearly an esthetically sensitive individual whose ear is attuned to the muses. He has a penchant for hyphenation, and we find words like *technical-conceptual, value-form, personal-theoretical,* and even *personality-theoretical-value.* To illustrate his operational analyses he uses elaborate diagrams which are difficult to interpret and which add nothing to the verbal statement of the idea. The total stylistic effect is like that of chalk scraping on a blackboard. But the author does pose some provocative issues, analyses, and case materials and these should be compensation enough for some readers.

David Rosenthal

BIXLEY, WILLIAM. *The Guilty and the Innocent.* Philosophical Library, New York, 1957. 176 pp., illus. $6.00

This unprepossessing little volume, certainly secure from any charge of underpricing, is subtitled "My Fifty Years at the Old Bailey." In it the author, who for some fifty years was a supervisory official of the Central Criminal Court in London, presents a redoubtable miscellany of courtroom memories that covers the bulk of the most sensational trials taking place there in the past half-century.

Written in a somewhat wordy, informal and conversational style, the intrinsically high interest level of the material makes for easy reading. The book makes no pretensions whatever to scholarliness: it lacks an index (which would have increased its usefulness somewhat), and is largely anecdotal and descriptive, dealing with the most celebrated cases, *e.g.* the secret spy cases of both world wars, seen in the court. The first two chapters, seemingly more carefully prepared than the remainder, provide a brief history of the Old Bailey and of that section of London (variously; Ludgate, Westgate, Newgate) where rough justice has been provided since the tenth century and before. The administrative corruption, racketeering by the early prison keepers, and the savage and barbarous punishments of the old days, are all briefly recorded.

The author had under his eyes a continuing parade of headline-dominating

trials, and makes the most of the asides and glimpses which in English practice are forbidden to the press and the public. Herein lies the absorbing quality of the book. The fare is gamy; murderers, spies, embezzlers, perverts, arsonists. Among many others, some of the trials described are those of Neville Heath, Klaus Fuchs, Dr. Crippen and William Joyce (Lord Haw Haw).

This book is diverting, and of considerable interest. It is not, however, a serious contribution to forensic or penological literature.

H. A. Robinson

WOLSTENHOLME, G. E. W. AND O'CONNOR, C. M., EDS. *Neurological Basis of Behavior: A Ciba Foundation Symposium.* Little, Brown & Co., Boston, 1958. xii + 400 pp., illus. $8.50

Interdisciplinary research has become, in recent years, a major force in biological progress and most particularly in recent developments in the understanding of the structure and functional organization of the nervous system and their relationship to the behavior of the organism. Observations in the fields of physiology, pharmacology, anatomy, biochemistry, neurology and psychology have begun to be integrated and correlated and this integration has stimulated further developments in each of these various areas of investigation. The advantages of such cross-fertilization and communication have been recognized in the large number of interdisciplinary conferences held in the last few years both here and abroad. The present volume, which also serves the purpose of commemorating the centenary of the birth of Sir Charles Sherrington, although primarily concerned with neurophysiological problems demonstrates very well the impossibility at the present time of thinking or working in the old sense of so-called "pure" physiology. The studies described cover a vast realm from the physiology of nerve cells (by J. C. Eccles) to the problems of stress (C. P. Richter) and translation of bodily needs into behavior (P. Dell). Neurochemistry and neuropharmacology are represented by the papers of Elkes and Rosenzweig, Krech and Bennett. The psychological aspects are more apparent in the discussions of Olds on drives and Gastaut and Jasper, Ricci and Doane dealing with conditioned responses. Green brings anatomy into the problem of the rhinencephalon and its relation to behavior, and memory and other mind-brain concepts are areas of focus discussed by Penfield and Magoun. As is usual for the Ciba Foundation Symposia (and one of the many characteristics that maintain their level of excellence) the group involved is kept quite small so that free and provocative discussion can be maintained. There is no question that both the papers and discussion will stimulate investigators in all the fields involved, and it is to be hoped that they will be encouraged to increase their communication with other workers an understanding of whose language and methods may be of inestimable value.

In general, the time has not yet come when our knowledge permits us to talk very much in terms of neurophysiological, biochemical or pharmacological factors related to "mind." However, as Professor Harris points out in his opening remarks to this most important little volume, "From the utilitarian point of view, it may be pointed out that the future of psychiatry seems likely to be closely linked with the development of this new field of science which attempts to place psychology on a basis of neurophysiology. It is likely that the slow, painful and painstaking accumulation of data in the field of our interest will one day form the basis of an understanding of normal and abnormal behavior and afford a sound footing for the treatment of psychoses."

Robert G. Grenell

WALTON, ALAN HULL. *Aphrodisiacs: From Legend to Prescription.* Associated

Booksellers, Westport, 1958. 267 pp., illus. $7.95

There can be no doubt that the topic which Walton treats in this attractive volume is one of broad and intense interest. This reviewer has had considerable difficulty keeping the book in his possession and out of the hands of colleagues intent on conducting a bit of bibliographic research on aphrodisiacs. Walton's treatment of the topic is most uneven, however, so that readers are likely to be disappointed with much of the book.

The volume is divided into three major sections. The first, "Aphrodisiacs Through the Ages," is a scholarly history which to the reviewer seems the soundest portion of the book. Starting in antiquity with the Jews, the Greeks and the Romans, the author painstakingly surveys the means used to preserve, increase, and restore sexual potency in various cultures, up to the "abandonment of purely erotic cookery" during the Victorian era.

"The Cookery of Love" is the volume's second section. Here Walton turns to contemporary medical thinking on the aphrodisiac and anaphrodisiac properties of common (and some rather uncommon) food substances, and presents 53 selected recipes, ranging from soup to breakfast food. In this section, he also attempts to deal with the problem of psychic impotence, but the presentation is superficial, and what is worse, naive.

In the third section, "Medicine and Sexuality," the author first gives a greatly oversimplified picture of the science of endocrinology, and then proceeds to relate the story of man's search for sexual rejuvenants, concluding with an enthusiastic endorsement of testosterone. Reading this section reinforced the reviewer's opinion that Walton's strength lies in historical survey, not medical reporting.

The book jacket informs us that Walton is presently at work on a ten-volume *Bibliographia Sexualis*, "an annotated and critical survey of sex in all its aspects." Despite his serious reservations about the present work, the reviewer has to admit that he is looking forward to the publication of Walton's *magnum opus*, and hoping that the Postmaster General rules it mailable.

A. B. Silverstein